DOCUMENT RESUME

ED 463 575	EA 031 574
AUTHOR	Wright, Richard K.
TITLE	Review of Department of Defense Education Activity (DoDEA) Schools. Volume I: Main Report and Appendixes. IDA Paper.
INSTITUTION	Institute for Defense Analyses, Alexandria, VA.
SPONS AGENCY	Department of Defense, Washington, DC.
REPORT NO	IDA-P-3544
PUB DATE	2000-10-00
NOTE	343p.; For volume II, see EA 031 575. Contributors include Lowell Bruce Anderson, Jerome Bracken, Marilyn C. Bracken, and Sheila A. Byrd.
CONTRACT	DASW01-98-C-0067
PUB TYPE	Information Analyses (070)
EDRS PRICE	MF01/PC14 Plus Postage.
DESCRIPTORS	*Educational Quality; Elementary Secondary Education; *Evaluation; Foreign Countries; Military Personnel
IDENTIFIERS	*Dependents Schools; Europe

ABSTRACT

During school year 1998-99, military leaders and parents expressed discontent about the quality of education in Department of Defense (DoD) dependent schools in Europe. Concerned that these education issues were having an adverse impact on the quality of life of military members and families in Europe, and were creating morale and potential retention problems, the Under Secretary of Defense (Personnel and Readiness) requested that the Institute for Defense Analyses conduct an independent review of DoD schools. Study goals were to provide an objective assessment of the quality of education in Department of Defense Education Activity (DoDEA) schools, examine command and parental issues and concerns about educational quality and expectations for students' educational experience, examine issues and concerns identified by DoDEA personnel, and make recommendations about how to respond to any differences between parental perceptions and expectations, and actual performance of DoDEA schools. After the summary, seven chapters address: (1) background; (2) study objectives and approach; (3) student achievement; (4) curriculum; (5) teachers and administration; (6) school environment; and (7) Department of Defense Education Activity (DoDEA) management and relationships. Appendices include a condensed history of DoDEA, study objectives and approach, student achievement, curriculum, teachers and administrators, school environment, DoDEA management and relationships, recommendations, glossary, and references. (Contains 186 references.) (RT)

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INSTITUTE FOR DEFENSE ANALYSES

ED 463 575

Review of Department of Defense Education Activity (DODEA) Schools
Volume I: Main Report and Appendixes

Richard K. Wright

Contributors:
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Jerome Bracken
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October 2000

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PREFACE

This document reports the work performed by the Institute for Defense Analyses for the Under Secretary of Defense (Personnel and Readiness) in fulfillment of the task entitled "Review of DoD Education Activity (DoDEA) Schools."

This report would not have been possible without the time that 691 individuals so willingly gave during 241 interviews. This included many military leaders, parents, educators and students throughout the world. Their honest and candid comments and opinions were instrumental in ensuring that the study focused on the issues and concerns that were most important to those most interested in the outcome. Appreciation is also extended to the many people in DoDEA headquarters and those in the schools and districts who responded to requests for specific data for use in our analyses.

Within IDA, the document was reviewed by Stanley A. Horowitz and George E. Lippencott. Outside IDA, it was also reviewed by LTG Robert S. Coffey, U.S. Army, Retired, and Dr. James M. Wolf, both of whom have been involved with DoDEA. Their comments and suggestions, from a military and educator perspective, respectively, improved the quality of the report.

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SUMMARY

A. BACKROUND

The Department of Defense Education Activity (DoDEA) provides education to more than 100,000 eligible DoD military and civilian children from preschool through grade 12 in 224 schools located in the United States and overseas. It oversees the Department of Defense Dependent Schools (DoDDS), the overseas school system, and the DoD Domestic Dependent Elementary and Secondary Schools (DDESS), the stateside system.

During school year (SY) 98–99 military leaders and parents expressed a significant level of discontent about the quality of education in DoDDS-Europe. This resulted from events occurring over a 4- to 5-year period that included the drawdown in Europe and increased deployments, the reorganization within DoDEA to consolidate many functions at DoDEA headquarters, and perceptions that the DoDEA leadership was not responsive to the concerns of senior military leaders.

Concerned that these education issues were having an adverse impact on the quality of life of military members and families in Europe, and were thus creating morale and potential retention problems, the USD (P&R) requested that the Institute for Defense Analyses (IDA) conduct an independent review of the DoDEA Schools. The objectives and approach of the IDA study are detailed below.

B. STUDY OBJECTIVES AND APPROACH

The overall objectives of the study were to 1) provide an objective assessment of the quality of education in DoDEA schools, 2) examine command and parental issues and concerns about educational quality and expectations for students' educational experience, 3) examine issues and concerns identified by DoDEA personnel and 4) make recommendations about how to respond to any differences between parental perceptions and expectations and the actual performance of DoDEA schools.

To meet these objectives IDA conducted extensive interviews with stakeholders to identify significant issues. There were 241 interviews conducted with 691 military leaders, parents, administrators, teachers, students and other individuals in Europe, the Pacific, and the continental United States (CONUS) to identify issues and assess the quality of education in DoDEA schools.

Research and data analysis was done pertaining to the objectives and tasks defined by the Office of the Secretary of Defense (OSD) and other critical issues identified during interviews. Although it is difficult to compare DoDEA with other school systems because of its uniqueness as an educational system, IDA collected the best data available and performed a comparative analysis between the DoDEA system and other US school systems.

This report presents an assessment of DoDEA schools and the quality of education they provide. The issues specified in the OSD task and objectives, along with other critical issues identified during the interviews, are the focus of the review. The issues are organized into five major areas: 1) student achievement, 2) curriculum, 3) teachers and administrators, 4) school environment, and 5) DoDEA management and relationships. Discussed below are the salient issues identified within each of the major areas.

C. DISCUSSION OF ISSUES

1. Student Achievement

a. Test Scores

Test scores are the most objective way to measure the quality of education and are usually reflective of student achievement, but they should not be the only measure of success for students, teachers, or schools. Some or all DoDEA students take the same standardized tests as those taken by a substantial number of students in other school systems. In general the performance of DoDEA students on those tests is as good as or better than the U.S. student population as a whole.

b. College Attendance

Another method of assessing the quality of education is to examine the percentage of high school (HS) graduates who attend college and to evaluate the quality of the colleges attended. Based on plans of recent DoDEA HS graduates, a significantly higher percentage (73% vs. 66% nationally) attended college. Among those college-bound

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DoDEA HS graduates and HS graduates nationally, approximately 9% attended top tier universities or colleges in the U.S. or a Service Academy.

2. Curriculum

a. Curriculum Content Standards

A quality school system should have well-defined and challenging standards that everyone understands. DoDEA has a 6-year curriculum development and assessment adoption cycle that is methodical, reasonable, and manageable. A review of the *DoDEA-DoDDS Curriculum Standards Manual* focused on evaluating how well DoDEA's education standards in the core areas of language arts/reading, mathematics, science and social studies compare with high-performing states and nations. It was determined that the content standards contain language that is too broad, repetitive, and incorrectly sequenced. In addition, some important content is missing, is too abstract, or cannot be assessed. The content standards should be reviewed and revised.

b. Advanced Placement Courses

DoDEA has an open enrollment policy that allows any eligible student to take an Advanced Placement (AP) course. Many DoDEA students from 56 of 58 high schools were enrolled in 29 of 32 AP courses offered by the College Board. Many of those enrolled took the AP test, but the number who scored well enough to receive college credit was below the national average.

c. Vocational Education

Legislation and DoD guidance states that DoDDS will provide a program to meet the special needs of individuals with an interest in vocational education since not all students will go to college after graduation. Most middle schools and high schools in DoDEA offer some career or vocational education courses. Many of these courses are outdated and probably should be eliminated, updated or replaced by courses that provide the opportunity to develop skills needed for the 21st century workplace. Based on school size, there is an imbalance in vocational courses offered. While the largest high schools offer a broad selection, some of the smaller schools offer very few or none.

d. Special Education

DoDEA complies with the Individuals with Disabilities Education Act (IDEA). Some military and government civilian personnel arrive overseas with dependent children who have special education needs at locations where these services are not readily available. The Exceptional Family Member Program (EFMP) attempts to match military assignments with the availability of needed services. It is effective if military members who have children with special education needs are enrolled, but not all military members enroll in the program. The system for civilian personnel is less effective.

e. Distance Learning

The worldwide distance learning (DL) program is planned, coordinated, and executed through the DoDEA Electronic School (DES) in Germany. All DL courses are taught asynchronously. The DL program provided 16 academic courses and 6 activities in SY 99–00. Because there are not enough teachers to accommodate all students who want to enroll, the priority for course enrollment goes to students in small schools. The DES has courses to teach educators how to develop and teach DL courses. DoDEA should explore ways to expand and improve the DL capabilities and thus enrich and increase curriculum offerings.

f. Extracurricular Activities

DoD guidance states that DoDDS may provide, to the extent that funds are available, extracurricular and co-curricular programs and activities to enrich the school environment and experience. All DoDEA schools provide some extracurricular activities and the high schools offer interscholastic sports, but specific offerings vary according to school size. A DoDEA educator must sponsor an activity, and some schools do not have enough volunteers.

g. Transition

The mobility rate of students in the DoDEA school system exceeds 35% per year. Within DoDEA, and among other school systems, there are different grading scales, grade point equivalent scales, class schedules, curricula, graduation requirements, etc. These variances make transition more difficult. In 1983, the National Commission on Excellence in Education (NCEE) recommended a basic curriculum. DoDDS schools will meet the NCEE standards effective with SY 01–02. The DDESS schools will meet the standards in the core subjects but not in computer technology and foreign language.

DoDEA should work with the Military Child Education Coalition and the Council of Chief State School Officers to identify and standardize processes that could alleviate transition issues.

3. Teachers and Administrators

a. Teacher Quality

The quality of DoDEA teachers was compared with teachers in public and private schools in the United States based on the selectivity of undergraduate schools attended by DoDEA teachers. Based on a random sample. DoDEA teachers attended higher-quality undergraduate schools and are thus presumably better qualified intellectually compared with public school teachers. A review was also done of the SAT and ACT scores of the undergraduate schools attended by the same teacher sample. The average score of institutions from which DoDEA teachers graduated was far higher than the average score of all 4-year institutions. DoDDS has a higher percentage and DDESS has a lower percentage of teachers with a Master's degree compared with teachers in the average public school system. A comparison of teaching experience indicated that DoDEA teachers have substantially more experience than do the teachers in the U.S as a whole.

b. Teacher Professional Development

A comprehensive professional development (PD) program is an essential element in providing a quality education. DoDEA provides extensive PD training and activities that occur throughout the year at locations around the world, but much of it occurs during the school year and takes teachers away from the classroom. The use of distance learning to provide professional development opportunities would reduce travel time and costs, broaden the audience, and ensure consistency of presentations. DoDEA has no formal mentoring program for teachers new to the teaching profession, while 28 states mandate such a program. DoDEA should form a task force to assess the effectiveness of current PD activities, review research literature, and formulate a comprehensive PD plan that includes individual and systemwide components.

c. Teacher Recruitment and Retention

About 350 teachers were hired from CONUS and about 500 teachers were hired locally for DoDDS in SY 99–00. A new hiring policy for DoDDS will go into effect for SY 00–01 that revises the basic qualification requirements for teacher applicants. In comparing DoDDS retirement data over the past 5 years with the number of teachers eligible to retire in the next 6 years, it appears unlikely that there will be a mass exodus of teachers due to retirement. DoDEA should evaluate the impact of recent policy changes related to hiring local family members as teachers and accepting certification from any state to determine the impact on teacher quality, recruitment, and retention.

4. School Environment

a. Opportunity

Parents want to ensure their children have the opportunity to achieve their maximum potential with a curriculum that keeps them competitive with any other school system their children attend. To that end, every child enrolled in a DoDEA school, regardless of school size or location, should have the same opportunity. DoDEA provides schools based on student population and facilities. Based on other issues reviewed in the report, students in smaller schools have less opportunity in terms of course offerings, sports and extracurricular activities. DoDEA should continue to explore ways to provide expanded opportunities for students in small schools.

b. School Improvement Plans and Framework Schools

The DoDEA Community Strategic Plan (CSP), 1995–2000, has 10 goals and 40 benchmarks of which 5 are systemwide priorities. A review of the school accountability reports indicates that the schools have generally been successful in meeting their stated objectives. Accreditation provides an outside assessment by professional educators of a school's quality of education with a focus on school improvement. All DoDEA schools are accredited.

DoDEA initiated a program in June 1998 that identified 16 low-performing schools. They were provided assistance and tasked to improve their performance. At the end of 2 years site team leaders reported that, as a result of the assistance provided, each school had made significant improvement in overall test scores.

c. Staffing Standards and Class Size

The number of school-level educators is based on DoDEA staffing standards and the projected enrollment for the school year. The staffing standards for small schools limit the amount of time or number of days non-core courses are offered in the elementary schools (ES) and limit course offerings at the middle school (MS) and high school (HS) level. The Acting Director, DoDEA has committed to developing a program-based staffing model. The most urgent requirement is to provide sufficient staffing to small secondary schools to provide their students the same educational opportunities available to students in larger schools.

The staffing standards for elementary and middle schools can be equated to class size. An analysis of ES class size indicated that 76% of the classes met the DoDEA standard. Those that exceeded the standard were well spread between schools and grades. It appears that reasonable effort was made to stay within the standards. At the HS level there are no published guidelines for the minimum or maximum class size. An analysis of class sizes for MS and HS courses indicated that 88% of the classes had 25 or fewer students.

d. Technology

The DoDEA Technology Plan provides technology goals, describes technology requirements, evaluates the current status, and provides funding priorities and estimates. In May 2000 the 4.3:1 ratio of students per instructional multimedia computer in DoDEA was less than half the national average for all states in 1999. All DoDEA schools have access to the Internet and 58% have a complete local area network (LAN). DoDEA estimates that to provide adequate bandwidth for future requirements for all schools would cost $66 million. DoDEA has evaluated neither the effectiveness of the teacher's integration of technology into the curriculum, nor student performance to determine if it has improved as a result of the use of technology by either the teachers or the students.

e. Facilities and Maintenance

Although many schools are in old buildings that are in need of major renovations or replacement, the average age of DoDEA schools is lower than the average age of schools nationally. DoDEA has developed an integrated construction priority list for all projects in DoDDS and DDESS. The current list includes 50 projects ranging in cost from $800K to $50M and averaging $9.3M. DoDEA has also developed a 5-year plan for identifying and prioritizing repair and maintenance requirements, separating projects by fiscal year based on the availability of funds, and coordinating the plans at all levels. Repair and maintenance is funded below the DoD standard for all facilities.

5. DoDEA Management and Relationships

a. DoDEA Headquarters Operations

Decentralization of some operations within DoDEA started in SY 99-00 when the Deputy Directors, DoDEA for DoDDS-Europe and DoDDS-Pacific were again given responsibility for the operation of the Area Service Centers. Military leaders and parents have an expectation that the principals are responsible for running their schools and that they can provide answers and explanations to questions and concerns, or get them in a reasonable length of time. The Associate Director, Education position has been vacant since February 2000. DoDEA should reestablish the importance of curriculum and instruction and hire an Associate Director, Education as soon as possible.

b. Military-DoDEA Relationship

The relationship between military leaders, parents, and school administrators has improved considerably during the past 12 to 18 months. The military has placed a renewed emphasis on being involved in educational issues. Principals are more attentive now to the concerns of the military and parents. Military leaders and administrators agreed that most problems, issues and concerns should be addressed and can be resolved at the school or installation level. There is a sense that the education chain of command from the classroom teacher to the Director, DoDEA has been strengthened and is more effective now.

c. Parental Involvement

Improving the level of parental involvement is a priority of military leaders and educators. The DoDEA School-Home Partnership Program is designed to get parents involved. Teachers and administrators continually try to encourage parents to participate in school activities and make them feel welcome. Teachers estimate that more than 90% of the parents attend parent-teacher conferences, and that the military parent attends whenever possible. Some commanders have a policy that states the military parents' place of duty when a parent-teacher conference is scheduled is at the conference.

d. Councils, Committees, School Boards and Schools Officers

Councils, committees, and school boards are established by law and DoD and DoDEA implementing guidance. School Advisory Committees (SACs) and Installation Advisory Committees (IACs) were established to provide a coordinated process to address and resolve issues at the lowest practical level. They both appear to function well when there is strong support from all of those involved in the process. The school boards in DDESS are advocates for the parents and appear to function well. The inability of SACs, IACs, and school boards to make decisions as opposed to providing advice and recommendations does not appear to be a significant problem. The hiring of full-time Schools Officers, who serve as a liaison between the school principals and the installation commander, is having a positive effect. DDESS should be involved in the Dependent Education Council and included in visits by the Advisory Council on Dependent Education. DoDEA should submit changes to legislation and DoD directives to simplify and streamline the complex and cumbersome council and committee system.

e. Funding and Legislation

The DoDEA FY 2000 budget is $1.3B. Personnel costs are the largest single expenditure (69%). The per-pupil expenditures in DoDDS and DDESS are among the highest of any of the state averages and the 100 largest school districts.

Budget formulation and decision making is currently done at DoDEA headquarters without much field input. DoDDS, DDESS, and the councils should help prioritize programs and initiatives and be fully involved in deciding what other programs may have to be reduced or eliminated in order to pay for them. DEC members and the CINCs and Services they represent should support and help DoDEA effectively sell their quality education programs to OSD and Congress.

Different accounting systems for DoDDS and DDESS have not been consolidated since they both come under DoDEA. DoDEA uses several different Defense Finance and Accounting Service (DFAS) Centers operated by different Services with different accounting procedures. Consolidation would permit better queries and budget analysis, simplify procedures, and save funds.

The overall budget appears to be adequate to provide a quality education for eligible DoD military and civilian children, within the guidance of law and DoD directives. DoDEA is essentially the only "federal" or "national" school system in the United States and could serve as a model for many of the Department of Education initiatives for improving educational quality.

United States Code, Title 10 and Title 20, governs the operation of DoDEA schools. Laws, legislation, and implementing guidance published by DoD and DoDEA do not appear to hinder DoDEA in its ability to execute its mission. However, the separation of many policies and procedures for DoDDS and DDESS at all levels, and the absence of guidance for DDESS but detailed guidance for DoDDS hinders the creation of a more efficient DoDEA operation that can be understood by all.

D. CONCLUSIONS

The DoDEA school system provides students with an above average to excellent education. Military children attend many school systems during 12 years in elementary and secondary schools. Especially at the high school level it is difficult to assess the impact of DoDEA because the students are a product of many school systems. DoDEA should get neither all the credit for great student achievement, nor all the blame for less than desired results.

The level of satisfaction naturally varied among schools, installations, and stakeholder groups, but interview comments and detailed analysis did not result in identification of any overall dissatisfaction or serious problems with the DoDEA school system. Analyses and comparisons at the national, state, and local levels indicate that DoDEA performs well and compares favorably in many areas.

For each issue analyzed there are areas where improvements can be made that should further enhance the quality of education. Additionally, the renewed cooperation and collaboration among stakeholder groups at all levels indicate a healthy, positive relationship that should result in increased student achievement.

E. RECOMMENDATIONS

There are 53 recommendations in the report that should have a significant impact on student learning and improve the overall quality of education. All recommendations can be implemented but some will take an investment of additional resources. The most important recommendations have been included in this summary. A full set of recommendations is contained in appendix H.

I. BACKGROUND

The Department of Defense Education Activity (DoDEA) is a field activity operating under the direction, authority and control of the Deputy Assistant Secretary of Defense (Military Community and Family Policy) (DASD(MC&FP)). He reports to the ASD (Force Management Policy) (ASD(FMP)), who in turn reports to the Undersecretary of Defense (Personnel and Readiness (USD(P&R)). DoDEA provides education to eligible DoD military and civilian dependents from preschool through grade 12 at sites both in the United States and overseas.

DoDEA consists of an overseas school system, the Department of Defense Dependent Schools (DoDDS), and a stateside system, the DoD Domestic Dependent Elementary and Secondary Schools (DDESS). DoDDS is further subdivided into areas: Europe, Pacific, and America (Cuba), with schools located in 13 countries. DDESS is located in seven states, Puerto Rico, and Guam.

Table I-1. DoDEA Composition, SY 99–00

	Headquarters	Districts	Schools	Enrollment
DoDDS		12	154	74,284
Europe	Wiesbaden, Germany	8	116	49,259
Pacific	Okinawa, Japan	3	37	24,632
America	Guantanamo Bay, Cuba	1	1	393
DDESS	Arlington, VA	16	70	33,692
DoDEA	Arlington, VA	28	224	107,976

Enrollment as of 30 September 1999

A. DODEA HISTORY[1]

1. DDESS

In 1821 Congress first enacted a law that allowed the operation of schools on military posts. Schools were provided on some military posts before they appeared in many frontier communities. The status of schools for government dependents changed through the years in terms of legal status and financial support. In 1950, federal legislation consolidated the funding and operation of these installation-run schools under the authority of Section 6, Public Law No. 81-874. This legislation provided the criteria for operating and maintaining schools for children residing on federal property, and for the transfer of these schools to the Local Education Agency (LEA). In 1981, responsibility for the Section 6 schools was transferred from the Secretary of Education to the Secretary of Defense. In 1994, the school system was renamed the Department of Defense Domestic Dependent Elementary and Secondary Schools (DDESS). The Section 6/DDESS system has expanded and contracted over the years. At one point there were about 100 installations with Section 6 schools, but by the early 1970s most of these schools had been transferred to the LEA. The DDESS schools that remain tend to be in locations where a transfer is difficult to accomplish.

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[1] The DoDEA history was condensed and consolidated from "A Brief History of the Education of the U.S. Military Dependents: 1821 to 2000", by Dr. Thomas T. Drysdale; a chapter from *American Oversees Schools*, editied by Robert J. Simpson and Charles R. Duke, Appalachian State University, 2000; and DMDC Report No. 97-013, October 1997, A Study of Schools Serving Military Families in the U.S. A more detailed history is provided in appendix A.

2. DoDDS

Prior to World War II there was no precedent for establishing and operating dependents schools in foreign occupied countries. In 1946 dependents schools were established and operated by the Department of the Army. By 1949 almost 100 schools were being operated separately by the Army, Navy, and Air Force in countries around the world. In 1964, the Secretary of Defense combined the three separate school systems into the Department of Defense Overseas Dependents School System and divided it into three geographic areas. During the 1960s and 1970s, worldwide enrollment averaged 160,000, in grades K-12. There were more than 200 elementary and 100 junior/senior high schools in more than 30 foreign countries. In 1979 they became the Department of Defense Dependent Schools (DoDDS). Through several reconfigurations and school closings DoDDS now consists of two geographic areas: Europe and the Pacific, plus one coterminous area/district in Cuba.

3. DoDEA

In 1992 the DoDDS headquarters in Arlington, VA, became the Department of Defense Education Activity (DoDEA). The Director, DoDEA assumed responsibility for organizing, managing, and directing the DoDEA headquarters, DoDDS, and Section 6 schools.

The current mission is contained in the *DoDEA Community Strategic Plan* (CSP) published in August 1995. The team that developed the plan consisted of administrators, teacher union representatives, parents, and military leaders.[2] The CSP also contains a vision, 10 goals, 40 benchmarks, and guiding principles. In March 2000 a leadership team representing all stakeholder groups met at DoDEA to develop a CSP for the timeframe 2001–06. The draft CSP contains a new vision, eight guiding principles, four goals, and nine outcomes supporting the goals.[3]

Current Mission. The entire DoDEA community provides a world-class educational program that inspires and prepares all students in military communities around the world for success in a dynamic global environment.

Proposed Mission. The DoDEA provides, in military communities worldwide, exemplary educational programs that inspire and prepare all students for success in a global environment.

B. CONCERNS ABOUT QUALITY OF EDUCATION IN DODEA

During school year (SY) 98–99 there was a significant level of discontent among parents and military leaders about the quality of education in DoDDS-Europe. Although most of the concerns and complaints were raised in SY 98–99, many resulted from a culmination of actions that had occurred over a period of 4 to 5 years. Much of the concern about the quality of education in DoDEA schools was related to the drawdown in Europe and the increasing number of deployments, the reorganization within DoDEA to consolidate many functions at DoDEA headquarters, and perceptions that the DoDEA leadership was not responsive to the concerns of senior military leaders.

During the 1990s the military participated in several military operations worldwide. In Europe there were numerous deployments to support these operations, while the military there simultaneously underwent a significant drawdown after Desert Shield/Desert Storm. The drawdown resulted in installations being closed, units being reassigned, and troop strengths being reduced. From a DoDEA perspective, the primary impact was in DoDDS-Europe. The DoDDS-Pacific and DDESS schools were not affected as significantly by the drawdown.

Prior to the drawdown, the Services were very involved with the DoDDS schools. There was a Schools Officer at every installation and the School Advisory Committees (SACs) and Installation Advisory Committees (IACs) were very active. Before the end of the Cold War, troops went to the field on exercises and pilots flew training missions, but life in Europe was fairly stable and families could take vacations and travel. With the drawdown, the Army and Air Force reduced their support structure. With the long deployments they did not maintain the same degree of command support for the schools.

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[2] DoDEA Community Strategic Plan, August 1995.

[3] DoDEA Community Strategic Plan 2001-2006 (draft) at <www.odedodea.edu/csp/index.html>.

Based on a USD(P&R) policy decision, DoDDS was exempted from the military drawdown. Decisions also provided that schools would not be closed in mid-year and students would not be made to commute by bus in excess of one hour. A new Director, DoDEA was appointed in 1994 and assumed responsibility for executing a drawdown for DoDDS consistent with the previous military drawdown. The Director also began reorganization within DoDEA that included increased centralization of activities and consolidation of services at DoDEA headquarters.

During the drawdown the various committees and councils that exist to provide two-way communications between the military, parents and educators became less effective and did not function as they should because there was less military participation. Military Schools Officers (SO) and Schools Liaison Officers (SLO) were often military personnel who served in these capacities as an additional duty. They were usually young officers or noncommissioned officers who had limited military experience and no children in school. Their focus was on discipline as opposed to educational issues. There was little, if any, dialogue about curriculum, test results, extracurricular activities, etc.

The many deployments of units from Europe became very stressful for families. There were repeated long separations, and when not deployed, military personnel were working very long hours. The stress on families was even greater on the children, compounded by what parents believed to be an inadequate number of school counselors and psychologists. Parents began asking why the schools were not helping take care of children's problems.

In the 1998–99 time frame concerns about the quality of education began with a ground swell from parents who had major concerns. The most vocal groups were primarily the senior officers and NCOs and their wives with children who were juniors and seniors getting ready for college. The complaints came from areas primarily with large concentrations of these people, for example, Stuttgart, Heidelberg, and Ramstein. Mathland, a new math program implemented by DoDEA, frustrated children, teachers, and parents. Many parents perceived that children were having difficulty getting into good colleges and that school counselors were not very helpful. Parents perceived that the principals did not respond to their suggestions, problems, or complaints because the principals knew the parents would be moving within 3 years. Requests from parents and military leaders were not acted on, or if acted on, they were not acted on in a timely manner or with adequate consultation. Letters to the editor of the *Stars and Stripes* newspaper in Europe caught the attention of military leaders. Complaints were made to OSD leaders and congressional delegations about quality of education issues.

To better understand the problems, the military leadership conducted open forums and town hall meetings. This was probably not the most effective method because the effort resulted primarily in complaint sessions with people concerned with their own children. Since the SAC, IAC, and CCAC structure was not functioning, the only other forums available were the school Parent Teacher Student Associations (PTSAs) and Parent Teacher Organizations (PTOs), which were less influential.

A big issue was the inability to get problems solved at the local level. Principals did not seem to be responsive to parents. When asked why things could not be done, principals told them they did not have the power to make the types of decisions parents wanted. As a result of reorganization within DoDEA that began in 1995, much of the decision-making authority was centralized in DoDEA headquarters. The centralization of activities and consolidation of services precluded area directors from taking direct action to fix non-education related problems. For example, the DoDDS-Europe Service Center at Wiesbaden, Germany, which was responsible for bus contracts, personnel and pay issues, textbooks, logistics, and allocation of the budget, came under the control of the DoDEA HQ.

There was a perception that the DoDEA leadership did not care about the military commanders and their input. Changes were being made without consultation or input in such areas as curriculum, school improvement, school closings, etc.

In addition to problems between military leaders, parents, and educators in DoDDS-Europe and DoDEA headquarters, problems started to arise within DoDEA. In the early 1990s the DoDEA HQ was formed almost entirely from DoDDS personnel. When DDESS was integrated into DoDEA, DDESS complained that DoDEA was trying to make DDESS like DoDDS. There was considerable stress between the Director, DoDEA and Director, DDESS. The DDESS school boards and superintendents were unhappy with the unresponsiveness of DoDEA HQ and thought they wanted total control. Lack of two-way communications was becoming a major problem. The teacher unions were very vocal and very unhappy with DoDEA HQ. Many complaints alleged that

DDESS was not being treated equitably, nobody in the headquarters listened, and the headquarters was being overstaffed at the expense of the field.

The area directors (DoDDS-Europe, DoDDS-Pacific, DDESS) lost power in the consolidation of activities and decision making at DoDEA headquarters. They were also undermined by the teachers who found out they could send an email to the Director, DoDEA, who would personally deal with it. Directors and superintendents lost control of significant resources—manpower and money.

Not only were the committees and councils within DoDDS-Europe ineffective, but the Dependent Education Council (DEC) became dysfunctional because the generals stopped attending and began sending civilians without decision-making ability. For a period of time the DEC meetings were cancelled.

Because of their strained relationship with the DoDEA leadership and the perception that the DoDEA leadership did not do a good job communicating with commanders and families, the senior military leaders began to bypass DoDEA and go directly to OSD leaders when they had a problem. The focus of quality of life issues was increasingly on dependent education.

Military leaders believed that families did not feel empowered when it came to the education of their children. Parents wanted a greater voice in school affairs. They wanted to know that they were listened to, that what they said mattered, and that they were an important part of the picture. There was a desire by USAFE to replace SACs with school boards that had decision-making authority, unlike DDESS school boards that do not have such authority.

In the past year, following a change in DoDEA Directors, there has been a renewed effort to get the advisory committees working again and newly appointed, usually full-time civilian School Officers doing their job. There has been considerable progress with more responsiveness from DoDEA in terms of working with the military and the families. Principals have been directed to discuss staffing, their budgets, and disciplinary policy with parents at the start of the school year. Everyone wants accountability. In FY 1999 DoDEA received funding to initiate full-day kindergarten, lower the pupil teacher ratio (PTR), and run a trial summer enrichment program. The DEC process is working again and the channels of communications are better. School improvement teams consisting of all stakeholders are starting to function better.

Concerned that these education issues were having an adverse impact on the quality of life of military members and families in Europe, and creating morale and potential retention problems, the USD (P&R) requested that the Institute for Defense Analyses (IDA) conduct an independent review of the DoDEA Schools. The objectives and approach of the IDA study are detailed in the next chapter.

II. STUDY OBJECTIVES AND APPROACH

Since there was not a thorough understanding of the issues and concerns at the beginning of the study, IDA and its sponsors determined that the best approach was to conduct the study in two phases. Phase 1 was conducted to determine how to focus the efforts of a broader Phase 2 that consisted of extensive interviews and data analysis. Two major challenges were also encountered—defining quality of education and finding appropriate comparative data.

A. PHASE 1

In Phase 1, IDA conducted interviews with key officials in OUSD (P&R), the DoD Education Activity (DoDEA) headquarters, and the US European Command (EUCOM). IDA also did a preliminary review of available data to include the DoDEA Community Strategic Plan (CSP), DoDEA Accountability Profiles, DoDEA Customer Satisfaction Survey, and the EUCOM – DoDDS Survey. The purpose of this phase was to better understand the problem, identify personnel for future interviews, identify other sources of information, and determine the scope and detailed objectives of the broader IDA study to follow. Phase 1 was completed in 1 month.

B. PHASE 2

As a result of the interviews and review of data in Phase 1, objectives and specific tasks were established.

1. Study Objectives

The overall objectives of the study were to:

1. Provide an objective assessment of the quality of education in DoDEA schools.
2. Examine command and parental issues and concerns about educational quality and their expectations for their children's educational experience.
3. Examine issues and concerns identified by DoDEA personnel.

4. Make recommendations about how to respond to any major differences between parental perceptions and expectations and the actual performance of DoDEA schools.

2. Study Tasks

1. Conduct interviews with representatives of all stakeholders (key military leaders, parents, school administrators, teachers, unions, and students) in DoDEA headquarters, and DoDDS-Europe, DoDDS-Pacific, and DoD DDESS communities, to identify their key issues and concerns about the quality of education provided to the eligible dependents of military and civilian personnel.
2. Identify, collect data and analyze those objective and subjective data elements that effect the perceptions and expectations for a quality education in DoDEA schools. At a minimum this will include pupil teacher ratios, teacher quality, student performance based on standardized tests and other indicators, and availability of advanced placement programs, vocational training opportunities, and extracurricular activities.
3. Assess the quality of education provided by DoDEA, regardless of school size and location, relative to the quality provided by the better US public school systems and by demographically comparable US systems.
4. Analyze the use of technology and innovative programs to enhance student performance and provide accessibility to equivalent educational opportunities throughout the DoDEA school system.
5. Review the roles and responsibilities of advisory committees and councils, school boards, and schools officers, and analyze the impact that they have on the functioning of DoDEA schools. Review summaries provided by reviewing authorities of annual end-of-year reports submitted by installation and school advisory committees, as well as the reports of other councils at each level in the DoDEA and military chains that meet during the year to discuss educational issues, and actions taken in response to recommendations.
6. Review funding and legislative guidelines, procedures and processes that impact on providing quality education, services and support. Assess the differences between the DoDEA and public school systems, and the existence of barriers to implementation of changes.
7. Assess DoDEA personnel and management procedures to identify those that impact on providing a quality education for students.

8. Prepare a draft report that identifies key issues and concerns and analyzes critical data. Develop findings and make recommendations that will assist DoDEA in providing a quality education to students and facilitate improved relations between all stakeholders.

C. STUDY APPROACH

The study is based on a combination of interviews with DoDEA stakeholders, review of relevant educational literature, and quantifiable analysis.

1. Interviews

Because of concerns about quality of education issues being expressed by all groups involved in the education of military dependent children, it was determined that an extensive number of interviews, encompassing a representative sampling of all stakeholders, should be conducted.

a. Interview demographics

During the period August 1999 to May 2000, 241 individual and small group interviews were conducted with 691 people in Europe, the Pacific, and CONUS. Interviews were conducted in Europe during August and October 1999, in CONUS during November and December 1999, and in the Pacific during January 2000. Interviews with individuals in OSD, DoDEA, and DDESS headquarters and with selected other individuals were conducted from August 1999 to May 2000.

Schools and installations to visit and individuals to interview were selected to ensure that the interviewer would hear input from a representative sampling of all stakeholders. This would help preclude any subsequent analysis of issues and concerns being influenced by a particular group or location. After the interviewer selected a location to visit, details of the visit and interviews were coordinated through district superintendents and/or military leaders. Everyone was extremely helpful and accommodating during this process. It is the opinion of the interviewer that the interviewees provided objective thoughts and information about all issues and concerns. They realized the importance of the study, were concerned about the quality of education for military dependent children, and wanted to do whatever they could to help ensure a positive outcome.

The 77 military leaders and 22 school liaison officers interviewed represented all Services. A total of 199 parents were interviewed, 55 of whom were also military members. These parents had 358 children enrolled in all grades of DoDEA schools. Immediately prior to their current assignment they came from 25 different states and 10 different countries. Most of the parents were actively involved in various school committees and boards or served as volunteers in the schools. The 120 administrators included assistant principals, principals, assistant superintendents, superintendents, representatives of district and area offices, and key personnel in DoDEA, DDESS, DoDDS-Europe, and DoDDS-Pacific headquarters. They also included three Principals of the Year, two Superintendents of the Year, and the presidents of the Federal Education Association (FEA), FEA-Stateside Region, FEA-Pacific, and the Overseas Federation of Teachers. The 173 teachers interviewed represented all types of schools and a range of teaching experience from 1 to 43 years. They also included 13 Teachers of the Year for either SY 98–99 or SY 99–00, and 22 teacher union representatives. Of the students interviewed, 85 students were in grades 6 through 12, and one was in 2nd grade. These students had come from 20 different states and 7 countries. Twenty-two additional individuals interviewed represented various organizations and/or provided a unique perspective on the quality of education issue.

Table II-1 is a summary of those interviews in terms of the locations, numbers of interviews conducted, and categories of people interviewed.

Table II-1. Overview Demographics of Interviews Conducted

			Stakeholder Group						
Location	# Interviews	# People	Mil Ldrs	Parents	Admin	Teachers	Students	Others	Total
Germany	39	103	17	32	17	20	14	7	107
Italy	20	52	6	15	9	24	1		55
England	9	43	3	13	2	12	12	1	43
Hawaii	6	15	8					7	15
Korea	18	80	8	16	18	25	12	2	81
Okinawa	14	48	8	18	9	7	6	1	49
Japan	25	86	10	26	10	32	7	3	88
Cuba	1	1				1			1
Guam	13	62	5	17	6	18	13	3	62
CONUS	96	201	12	62	56	35	20	20	205
Total	241	691	77	199	127	174	85	44	706

Note: 15 military leaders interviewed were parents and are included in parent column also

Table II-1. Overview Demographics of Interviews Conducted (Continued)

			Stakeholder Group						
CONUS	# Interviews	# People	Mil Ldrs	Parents	Admin	Teachers	Students	Others	Total
Ft. Bragg	8	23	1	8	4	6	3	1	23
Lejeune	10	20	1	4	6	5	4		20
PR	12	48	4	27	3	2	13		49
Benning	12	22	2	4	6	10			22
Campbell	10	19	2	7	3	6		1	19
Robins	6	21	1	12	3	6			22
DoDEA	16	22			29				29
Other	17	22	1		2			18	21
Total	91	197	12	62	56	35	20	20	205

Note: 2 military leaders interviewed were parents and are included in parent column also

There are 224 schools in DoDEA. The 77 schools represented and 39 visited during the interviews included a wide range in terms of student enrollment and grade composition (table II-2).

Table II-2. Schools Visited or Represented during Interviews

Location	Total Schools	# Represented	# Visited
DoDDS	154	44	24
Europe	116	22	14
Pacific	37	21	10
America (Cuba)	1	1	
DDESS	70	33	15
DoDEA	224	76	39

Appendix B, tables B-1 through B-7, contains additional demographic details about the interviews. They include more details about the military leaders and school liaison officers, parents and their involvement with the schools, administrators and other individuals, teachers and union representatives, students, and the schools represented and visited during the interviews.

b. Interview Process

The purpose for the IDA study and the manner in which the interview would be conducted was explained at the beginning of each interview. It was explained that although each interviewee had a personal interest in and biases about the quality of education, it was important to be as objective and open-minded as possible in discussing the issues. They were told that the interviews were not a forum to voice specific local problems that would result in an effort to solve them. The focus was on assessing the quality of education in DoDEA schools worldwide; and school level assessments would not be addressed.

All interviews were for non-attribution and only the interviewee(s) and the interviewer were present during the interview. The interviewer took detailed notes, but the sessions were not tape-recorded. Rather than asking a specific list of questions or administering a survey to the interviewees, there were general areas of questioning that related to the study tasks and issues and concerns identified during Phase 1 of the study. In many cases an interviewee would comment about a topic that had not been mentioned in a previous interview and further discussion ensued. Additional discussion also ensued when it was obvious that an interviewee had information or expertise that allowed the interviewer to gain additional insights about a topic that was previously discussed. All interviewees were asked the same opening question related to their thoughts about a quality education and/or quality of education. It was an open ended question in which they were asked to identify specific elements, components, measures of merit, inputs, outputs, etc., that were important to them related to quality and how it should be measured, assessed, or evaluated. Most interviews lasted 1 hour. A few were shorter and several were longer.

When there was considerable discussion from many of those interviewed about a specific issue, the comments were reviewed to determine the consistency, or lack of it, between and within the various groups of stakeholders. This often resulted in the need for clarification and more details related to the issue. While perceptions of the interviewees are just as important as their knowledge of the facts, it was necessary to distinguish between them and ensure that subsequent analysis focused on the facts.

2. Data Analysis

An effort was made to gather and analyze as much factual data as possible pertaining to the OSD objectives and tasks and other critical issues identified during interviews. This proved to be more difficult than was originally imagined. Trying to find comparative data sources and determining logical comparisons for many of the topics was sometimes difficult. Although many studies and reports, both internal an external to DoDEA, provided statistics about an issue, the definition of the data, the level of data aggregation, years for which it was available, etc., were not always consistent. An example is "pupil teacher ratio" (PTR). While it appears the data set defines itself, three different formulas are used in DoDEA to compute three different PTRs, which are used for different purposes. From a parent's perspective, the real question and concern is how many children are in the classroom with the teacher of a particular grade or subject, i.e., class size.

Another difficulty with available comparative data was that sometimes DoDEA was included in rankings with other groups, and sometimes DoDDS and DDESS—but not DoDEA—were included in rankings. For example, DoDEA is ranked with the states when looking at the *Survey of Technology in the Schools*, conducted by the Milken Family Foundation, but DoDDS and DDESS are ranked separately with the states when looking at the National Assessment of Educational Progress (NAEP) standardized test results. There is no aggregation for DoDEA. In the annual *Quality Counts* survey conducted by *Education Week*, DoDEA is not included.

Results of analysis and comparisons of objective and subjective data between DoDEA, DoDDS, and DDESS and other school systems are found in the appropriate sections of the report. The analysis is based on either objective or subjective data, or a combination of both, depending on data availability and applicability to the issues being addressed. The most current data available were gathered from numerous, authoritative sources and are referenced throughout the report. Every effort was made to use comparative data that were meaningful and appropriate for the issue being analyzed. In some cases, data aggregated at different levels, e.g. national, state, or county, were used concurrently because data at the higher level often masked the wide variance of data at the lower level. In cases where there were no data to compare or data were not readily available, analysis was done using DoDEA data in such a way that appropriate conclusions could be reached. Some issues for which data were not appropriate were analyzed based on compliance with appropriate OSD and DoDEA directives. In some sections it is noted that additional analysis might be desirable but not possible because it was beyond the scope of this study. Discussion of the analysis indicates any assumptions made and known shortcomings in the data that were used.

D. STUDY CHALLENGES

1. Efforts to Define Quality of Education

One of the study objectives was to provide an objective assessment of the quality of education in DoDEA schools. Additionally several of the tasks require an assessment of a particular issue as it relates to education quality. The initial question that must be answered is what is meant by the phrases "quality of education" or "quality education"? This proved difficult to answer.

Considerable research on education has been documented in numerous studies and reports. There is no consensus, however, on what defines quality of education, what constitutes its essential components, or how to achieve a quality education.

Many educational organizations that attempt to evaluate quality of education address certain areas that they believe are important in evaluating education, but there is little agreement in the details. For example, *Education Week*, a weekly paper primarily for educators, in conjunction with the Pew Charitable Trusts, publishes an annual report, *Quality Counts,* which is a report on education in the 50 states. In *Quality Counts 2000 – Who Should Teach?* they compiled data on more than 75 indicators in 5 categories to include student achievement, standards and accountability, improving teacher quality, school climate, and resources. The Education Trust, a non-profit organization that promotes high academic achievement for all students at all levels, kindergarten through college, conducts a biannual report on educational quality. *The Education Watch: The Education Trust 1998 State and National Data Book* is a 250-page report that uses a variety of data sources to rank the 50 states on 21 indicators of educational quality and equity.

Rather than try to evaluate DoDEA schools against any particular education study or survey, or a composite of them, IDA decided that it would be more relevant to attempt to determine what quality of education was from the viewpoint of the stakeholders, and then compare that view with the broader findings of contemporary educational research. It was assumed that the DoDEA stakeholders would identify many of the same basic quality components as appeared in other studies and research. This proved to be the case.

Based on an analysis of all stakeholder comments about quality of education, 9 major categories containing a total of 39 components were identified. Overall, the categories and components are generally consistent with those that are identified in other educational studies and research. Table II-3 is a list of the categories, and appendix B, table B-9, is a list of components and the number of times they were mentioned by each stakeholder group.

Table II-3. Quality of Education Categories and Components

Category	# of Components
Achievement Measures	8
Teachers and Administrators	5
Military–DoDEA Relationship and Parents	3
Curriculum	5
Resources	2
Students	6
Safety and Discipline	2
General	6
Technology	2

The four most important components in assessing the quality of education were:

1. Student achievement as measured by standardized test scores: Scholastic Aptitude Test (SAT), American College Testing (ACT), National Assessment of Educational Progress (NAEP), Comprehensive Test of Basic Skills (CTBS)/Terra Nova, DoDEA Writing Assessment.
2. Professional, high quality teachers. They have pride in their work, high morale, a zest for teaching, and diverse experiences. They are motivated and committed to the teaching profession. They are aware of current successful teaching strategies, trained in the curriculum, use creative and innovative teaching techniques, collaborate with other teachers, and seek continual professional development.
3. Parents who are concerned and involved in a partnership to educate students and help them learn. They volunteer in the classroom and school, support the teacher and the school, and attend school events. They are involved with their child at home. They check homework, review tests, motivate, and encourage their child to do well, demand good performance, and ensure the child is rested and fed before he/she goes to school.
4. A curriculum with an enriched program that offers a wide variety of courses and educational opportunities and diversity for all students in all schools (AP, Honors and vocational education courses, sports and extracurricular activities).

2. Comparing DoDEA with Other School Systems

Even with a list of components that provide a basis for assessing quality of education, it is difficult to compare DoDEA with other systems because of its uniqueness as an educational system. It is the only school system in the United States run by the employer of the parents of the children to be educated.

Based on other studies, research, and stakeholders opinions, DoDEA could be compared with low-population states, large school districts, or school systems with similar demographics.

A key issue is whether DoDEA should be compared with state school systems or large county school systems. Standardized test score results (NAEP, SAT/ACT, CTBS/Terra Nova) and other reports that provide comparative data in which DoDEA (or DoDDS and DDESS) is included are comparisons based on state data. The Council of Chief State School Officers, a nationwide, nonprofit organization composed of public officials who lead departments responsible for elementary and secondary education in the states, also includes DoDEA. DoDEA has requested to be considered in the annual *Education Week* "Quality Counts" report but has been denied because *Education Week* does not consider DoDEA equivalent to a state. The U.S. Department of Education, National Center for Education Statistics (NCES), which collects and analyzes data related to education in the United States and other nations, includes DoDDS data in some state-level reports but excludes them in national totals.

Based on NCES data, tables II-4 and II-5 compare DoDEA with the state school systems and the largest 100 school districts in the United States.[1] If DoDEA was considered a state school system, it would rank 47 of 52 by number of districts, 50 of 52 by number of schools, and 49 of 52 by student enrollment. If it was considered the equivalent of a large school district, it would rank 12th based on number of schools and 23rd based on enrollment. The Hawaii Department of Education and the District of Columbia Public Schools are counted as both a state system and a school district by the NCES.

Table II-4. State School System Data

	# Districts	# Schools	Enrollment
Highest	1,042	8,178	5,803,734
Median	180	1,353	659,256
Lowest	1	170	77,111
DoDEA	28	224	107,976

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[1] Department of Education, NCES, Digest of Education Statistics 1999, 1999-036.

Table II-5. Largest 100 School Districts in the United States

	# Schools	Enrollment
Highest	1,543	1,107,853
Median	105	65,051
Lowest	46	44,694
DoDEA	224	107,976

In some cases, comparisons of DoDEA with other state or local systems should take account of the unusual demographics of DoDEA students, i.e.:

- At least one, if not both, parents are employed.
- All families have adequate housing, food, clothing, and medical care.
- Families live in a relatively drug-free and low crime environment.
- The military community is well educated and understands the value of education.
- The student population has a diverse cultural and ethnic background.
- The annual mobility rate among students in the schools exceeds 35%.

In the analytical evaluations of DoDEA and its schools, a variety of methods are used. These include comparisons with states, large school districts, districts adjacent to military bases or well known to military families, and national performance statistics. The issue under consideration and the availability of relevant data determine the methods employed. Appendix B contains additional discussion about comparing DoDEA with other school systems.

E. REPORT STRUCTURE

The remainder of this report presents an assessment of DoDEA schools and the quality of education provided by DoDEA. The following 5 chapters address 25 specific issues that IDA determined, based on an analysis of all of the interviews, were the most important to the stakeholders. These issues correspond strongly with general concerns about educational quality and school performance, and they address all elements of the OSD study tasking. The organization of the remaining chapters provides a way to address the major areas of the study in a logical and coherent order. The following chapters address:

- Student Achievement
- Curriculum

- Teachers and Administrators
- School Environment
- DoDEA Management and Relationships

There are many more issues that were mentioned by stakeholders, but the 25 selected were determined to be the most important because they represented the largest cross-section of stakeholder groups, or the same group of stakeholders from most locations visited. Thus they are not local issues, but rather focus on all of DoDEA.

Each of the 25 sections is organized in the same way and contains the identification of the issue, summary of interviews, analysis, conclusions and recommendations. The summary of the interviews is intended to put the issue into the context of what is important to the stakeholders and to allow the reader to see where there was agreement or disagreement, confusion or understanding, and/or perceptions or facts related to various aspects of the issue. They also provide additional insights into the complexity of the issues and the viewpoints of the various stakeholder groups. There is no attempt to substantiate all of the statements or assertions in the summary of interviews.

The analysis sections contain objective and subjective data used to provide unbiased and accurate assessments of the issues. Additional discussion and details in referenced appendices supplement analysis presented in the body of the report. Further, to assist the readers most interested in quantitative analysis, the more important quantitative work found in the body and appendixes of the report is compiled and presented in a single location (volume II).

Based on the analysis, conclusions are reached and recommendations are provided for most of the 25 issues. The recommendations specify what organization should take action and what should be done. Appendix H restates all of the recommendations for ease of reference.

III. STUDENT ACHIEVEMENT

A. TEST SCORES

1. Issue

How well do students in the DoDEA school system perform on standardized tests compared with students in other school systems?

2. Summary of Interviews

All stakeholder groups stated that the most objective way to measure the quality of education was through an assessment of test scores. Interviewees thought that test scores were usually reflective of student achievement; however, they did not think scores should be the only measure of success for students, teachers, or schools. Many of those interviewed were not sure how accurate or beneficial the comparisons would be because of the high turnover of students each year. Parents are concerned about how well their children do on the tests that are administered and realize that testing is a very important component of assessment throughout the United States. Teachers and administrators stated that with higher participation rates on the SAT, as in DoDDS, there is a greater tendency for average scores to be lower. Parents expressed varying degrees of satisfaction with the different SAT preparation programs offered.

3. Analysis

There are three measures of student achievement conducted in DoDEA schools related to tests. They are the National Assessment of Educational Progress (NAEP), the Comprehensive Test of Basic Skills/Terra Nova (CTBS/Terra Nova), and the Scholastic Aptitude Test (SAT).

a. National Assessment of Educational Progress (NAEP)

The National Assessment of Educational Progress (NAEP) is the best measure for evaluating and comparing DoDDS and DDESS student achievement. It is the nation's only ongoing survey of what students know and can do in various academic subjects. Authorized by Congress and administered by the National Center for Educational Statistics (NCES) in the Department of Education, the NAEP regularly reports to the public on the educational progress of students in grades 4, 8, and 12.

In 1996, NAEP conducted a state-by-state mathematics assessment of 4th grade students and 8th grade students and a state-by-state science assessment of 8th grade students. In 1998, NAEP conducted a state-by-state reading assessment of 4th grade and 8th grade students and a state-by-state writing assessment of 8th grade students.

The NAEP does not test each student. Rather, it uses statistical sampling techniques that are designed to result in an accurate score for each state. The methodology of the NAEP has been reviewed by independent outside experts. The National Research Council report *Grading the Nation's Report Card: Evaluating NAEP and Transforming the Assessment of Educational Progress*, National Academy Press, 1999, was generally positive about the ability of the NAEP to provide a good comparison of results.

The District of Columbia, DoDDS, and DDESS are treated the same as states. DoDEA aggregated results are not provided or considered. All states do not always participate in the NAEP. For the examinations mentioned above, there were different numbers of participating entities.

Appendix C, tables C-1 to C-6, give NAEP scores and student enrollment by state, sorted from the highest-scoring state to the lowest-scoring state. Only the District of Columbia and Wyoming, in addition to DoDDS and DDESS, have fewer than 100,000 students. Nine states have between 100,000 and 200,000 students. Thirteen states have a million or more students. In comparing DoDDS and DDESS with states, the comparisons may be somewhat limited by the sizes and the heterogeneity of the entities.

Table III-1 provides a comparison of rankings of DoDDS and DDESS students with those of participating states on the six NAEP tests reviewed. The term "States Participating" includes the states that chose to participate and the District of Columbia, which always participated, but it does not include DoDDS and DDESS. The reading and writing performance of DoDDS and DDESS ranks high among states, particularly at the grade 8 level. Mathematics performance is about average. Science performance is above average.

Table III-1. NAEP Test Comparative Results Among States

NAEP Test Reviewed	States Participating	States Higher than DoDDS	States Higher than DDESS
Grade 4 Reading (1998)	40	6	10
Grade 8 Reading (1998)	36	3	3
Grade 8 Writing (1998)	36	1	1
Grade 4 Mathematics (1996)	44	19	22
Grade 8 Mathematics (1996)	41	17	24
Grade 8 Science (1996)	41	11	14

Table III-2 provides the summarized results of the average test scores and compares DoDDS and DDESS with the national average. In reading and writing, DoDDS and DDESS scores are significantly higher than the national average. In grade 4 mathematics, DoDDS and DDESS are slightly higher. In grade 8 mathematics, DoDDS is higher and DDESS is lower. In grade 8 science, DoDDS and DDESS are higher. In this table the national scores include the DoDDS and DDESS scores.

Table III-2. NAEP Test Score Comparison

NAEP Test Reviewed	DoDDS	DDESS	Nation
Grade 4 Reading (1998)	223	220	215
Grade 8 Reading (1998)	269	269	261
Grade 8 Writing (1998)	156	160	148
Grade 4 Mathematics (1996)	224	223	222
Grade 8 Mathematics (1996)	275	269	270
Grade 8 Science (1996)	155	153	148

Table III- 3 provides summarized results of DoDDS and DDESS minority student (African-American and Hispanic) average test scores and compares DoDDS and DDESS with the national average. Average achievement of minority students in DoDDS and DDESS is significantly higher than that of minority students in the nation.

Table III-3. NAEP Minority Student Comparisons

1998 Test	DoDDS	DDESS	Nation
African-American			
Grade 4 Reading	212	209	193
Grade 8 Reading	259	253	241
Grade 8 Writing	148	150	130
Hispanic			
Grade 4 Reading	216	211	195
Grade 8 Reading	263	268	243
Grade 8 Writing	153	153	129

Source: NCES Web site, <www.nces.ed.gov>

The NCES also provides data about the performance of students by percentile on the NAEP, which can be used to compare how lower-scoring and higher-scoring students perform. Table III-4 provides the average performance of students in the 10th, 25th, 75th and 90th percentile of DoDDS, DDESS, and the nation. The data demonstrate that, on average, the lower-scoring students in DoDDS and DDESS outperform the lower-scoring students in the nation and the higher-scoring students in DoDDS and DDESS outperform the higher-scoring students in the nation. The relative performance advantage of DoDDS and DDESS is not as great with higher-scoring students as with lower-scoring students. With respect to lower-scoring students, DoDDS usually scores higher than DDESS, while with respect to higher-scoring students, DDESS usually scores higher than DoDDS.

Table III-4. NAEP Percentile Results

1998 Test	DoDDS	DDESS	Nation
10th Percentile			
Grade 4 Reading	181	173	160
Grade 8 Reading	228	224	215
Grade 8 Writing	113	108	102
25th Percentile			
Grade 4 Reading	203	197	192
Grade 8 Reading	249	246	239
Grade 8 Writing	135	131	124
75th Percentile			
Grade 4 Reading	246	245	242
Grade 8 Reading	290	292	286
Grade 8 Writing	179	188	172
90th Percentile			
Grade 4 Reading	265	265	261
Grade 8 Reading	308	313	304
Grade 8 Writing	199	212	192

b. CTBS/TERRA NOVA

Some variant of the CTBS/Terra Nova is administered in 17 states and DoDEA. DoDDS and DDESS administer the CTBS/Terra Nova test to all students in grades 3 through 11. There are five subjects: reading, language arts, mathematics, science, and social studies. The first year that all of the DDESS participated in the Comprehensive Test of Basic Skills (CTBS)/Terra Nova was during SY 98–99. Each state determines what grades are tested and what subjects are tested. DoDEA does the most extensive testing. Fifteen states test two, three, or four grades, and one tests six grades. DoDEA and nine other states administer all of the tests. The remaining states administer two, three, or four tests. Some of the states use a customized version of the tests.

The CTBS/Terra Nova is a nationally norm-referenced test. A norm-referenced test allows a comparison of student performance against a nationally representative sample of students (a norm group.) A national percentile score of 50 is reported to be equivalent to performance at the national median. A national percentile score of 65 is equivalent to performance at the level of the top 35 percent of the nation.

Table III-5 presents DoDDS and DDESS scores for 1999. To facilitate summary comparisons, an average is also given. DoDDS consistently scores in the middle to high 60s and DDESS consistently scores in the low to middle 60s on the CTBS/Terra Nova.

Table III-5. DoDDS and DDESS 1999 CTBS Scores

Grade	Population	Read	Lang	Math	Science	Soc Stud	Average
DoDDS							
3	6733	58	61	58	57	52	57
4	6242	68	66	64	65	67	66
5	5953	69	65	63	67	66	66
6	5483	65	69	65	69	63	66
7	4966	69	65	62	63	64	65
8	4676	65	69	64	67	66	66
9	4180	71	71	66	62	70	68
10	3541	72	72	70	68	74	71
11	2989	71	69	69	68	74	70
DDESS							
3	3078	62	62	63	64	54	61
4	2851	66	63	64	67	63	65
5	2539	66	63	62	66	63	64
6	2344	62	66	64	68	61	64
7	1642	65	61	58	59	59	60
8	1376	62	66	59	67	61	63
9	1031	67	67	59	60	63	63
10	714	68	66	64	64	68	66
11	560	67	64	61	63	70	65

Source: DoDEA Web site, <www.odedodea.edu>

For comparison, data from school districts in three states were analyzed. Many of the states have hundreds of school districts, and in many cases data are not available at the state level. Complete data are available for Maryland (except for Calvert County) and for Nevada. Data are included for all school districts with more than 5,000 students except for New Mexico. Using the data, a direct comparison can be made of DoDDS and DDESS with school districts in these three states.

The enrollments of Maryland, New Mexico, and Nevada are 842,000, 325,000, and 297,000, respectively. Test data are available for tests given in Maryland in 1999, New Mexico in 1998, and Nevada in 1999. Appendix C, tables C-7 to C-9, give data on the school districts in these states in a format that allows comparisons with DoDDS and DDESS. There is a wide range in the student enrollment of the school districts in the states, both larger and smaller than DoDDS and DDESS.

In the Maryland comparison, school district, DoDDS, and DDESS 1999 data are available for grades 4 and 8 for the three subjects of reading, language arts, and mathematics. The average DoDDS score is 66 and the average DDESS score is 64. In Maryland, 2 districts out of 23 have higher average scores than DoDDS and 5 districts have higher average scores than DDESS. Nine districts have average scores of 60 or higher. The state average score is 50.8.

In the New Mexico comparison, school district, DoDDS, and DDESS 1998 data are available for grades 4, 6, and 8 for the five subjects of reading, language arts, mathematics, science, and social studies. In New Mexico, DoDDS and DDESS score better than all 16 districts and only one district has an average score in the 60s. The state average is 49.9.

In the Nevada comparison, school district, DoDDS, and DDESS 1999 data are available for grades 4, 8, and 10 for the three subjects of reading, language arts, and science. In Nevada, one very small district scores higher than DoDDS and DDESS and 2 of 17 districts have an average score of 60 or higher. The state average is 52.6.

c. Scholastic Apptitude Test (SAT)

The SAT program consists of the SAT I: Reasoning Test and the SAT II: Subject Tests and related products and services. The SAT I is a 3-hour, primarily multiple-choice test that measures developed verbal and mathematical reasoning abilities related to successful performance in college. The SAT I test is designed to supplement the secondary school record and other information about the student in assessing readiness for college-level work. The SAT II tests are designed to measure knowledge in specific subject areas and the student's ability to apply this knowledge. The SAT I: Reasoning Test is what is usually referred to as the SAT. It has two parts, verbal and mathematical. Scores on each part are from 200 (lowest) to 800 (highest).

Table III-6 presents average 1999 SAT scores for DoDDS and DDESS as well as for the 50 states, the District of Columbia, and the nation. Also given are the participation rates. The states and other jurisdictions in the table are sorted from highest to lowest total average score. For the first 17 states (through Mississippi), participation rates were low and scores were high. The participation rates may be low in some of these states because many colleges in them prefer or require applicants to take the American College Test (ACT) instead of the SAT.

It is reasonable to assume that the smarter a student is, the more likely he or she is to take the SAT. Accordingly, the average SAT score across jurisdictions could be expected to vary inversely with participation rates. Thus, a jurisdiction with a lower SAT and higher participation rate cannot be directly compared with one with a higher SAT and lower participation rate.

Table III-6. Average 1999 SAT Scores

State	Enrollment (000)	Verbal Score	Math Score	Total Score	Participation Rate (%)
North Dakota	114	594	605	1199	5
Iowa	503	594	598	1192	5
Minnesota	858	586	598	1184	9
Wisconsin	888	584	595	1179	7
South Dakota	142	585	588	1173	4
Illinois	2,000	569	585	1154	12
Kansas	470	578	576	1154	9
Missouri	921	572	572	1144	8
Nebraska	291	568	571	1139	8
Utah	447	570	568	1138	5
Oklahoma	627	567	560	1127	8
Michigan	1,700	557	565	1122	11
Arkansas	456	563	556	1119	6
Louisiana	754	561	558	1119	8
Alabama	759	561	555	1116	9
Tennessee	909	559	553	1112	13
Mississippi	502	563	548	1111	4
New Jersey	1,300	598	510	1108	80
Ohio	1,800	534	568	1102	25
Wyoming	94	546	551	1097	10
Kentucky	646	547	547	1094	12
Montana	161	547	546	1093	21
New Mexico	329	549	542	1091	12
Idaho	245	542	540	1082	16
Colorado	699	536	540	1076	32
Washington	1,000	525	526	1051	52
Oregon	543	525	525	1050	53
Arizona	829	524	525	1049	34
West Virginia	296	527	512	1039	8
New Hampshire	195	520	518	1038	72
Alaska	134	516	514	1030	50
Nevada	311	512	517	1029	34
Massachusetts	964	511	511	1022	78
Vermont	105	514	506	1020	70
Connecticut	545	510	509	1019	80
Nation	**46,161**	**505**	**511**	**1016**	**43**
Maryland	837	507	507	1014	65
California	5,800	497	514	1011	49
Maine	220	507	503	1010	68
Virginia	1,100	508	499	1007	65
DoDDS	**76**	**506**	**501**	**1007**	**63**
Rhode Island	154	504	499	1003	70
Delaware	113	503	497	1000	67
Florida	2,300	499	498	997	53
New York	2,900	495	502	997	76
Hawaii	187	482	513	995	52
Indiana	989	496	498	994	60
Pennsylvania	1,800	498	495	993	70
Texas	3,900	494	499	993	50
North Carolina	1,200	493	493	986	61
Dist. of Columbia	80	494	478	972	77
Georgia	1,400	487	482	969	63
DDESS	**36**	**483**	**474**	**957**	**34**
South Carolina	644	479	475	954	61

Source: College Board Web site: www.collegeboard.org

Sections 1 and 2, below, present two ways to compare the SAT scores and participation rate of a single jurisdiction (such as DoDDS or DDESS) with those of a collection of other jurisdictions (such as the states of the nation) considering this inverse relationship between scores and participation rates. Section 3 presents a logical consistency check on the results of these two approaches.

1. Adjustment for Participation Rates—Strict Comparability Procedure

The DoDDS 1999 SAT participation rate was 63 percent. The DoDDS 1999 SAT total score was 1,007.

Of the 51 states, counting the District of Columbia as a state, 8 states (New Jersey, New Hampshire, Massachusetts, Vermont, Connecticut, Maryland, Maine, and Virginia) had a participation rate that was the same as or higher than DoDDS and also had a total score that was the same as or higher than DoDDS. Of these 51 states, 6 states (Florida, Hawaii, Indiana, Texas, North Carolina, and South Carolina) had a participation rate that was the same as or lower than DoDDS and also had a total score that was the same as or lower than DoDDS. No state had both the same participation rate and the same total score as DoDDS.

Thus, there are 14 states that are strictly comparable with DoDDS according to the 1999 SAT participation rates and total scores. DoDDS had either an equal or better participation rate and an equal or better total score than 6 of these 14 comparable states, and DoDDS had either an equal or worse participation rate and an equal or worse total score than 8 of these 14 comparable states. The remaining 37 states are not strictly comparable with DoDDS based on the 1999 SAT participation rates and total scores. DoDDS does better than 6, and worse than 8, of the 14 states that it can be compared with according to this measure.

The DDESS 1999 SAT participation rate was 34 percent. The DDESS 1999 SAT total score was 957.

Of the 51 states, counting the District of Columbia as a state, 25 states had a participation rate that was the same as or higher than DDESS and also had a total score that was the same as or higher than DDESS. Of these 51 states, no states had both a participation rate that was the same as or lower than DDESS and a total score that was the same as or lower than DDESS. No state had both the same participation rate and the same total score as DDESS.

Thus, there are 25 states that are strictly comparable with DDESS according to the 1999 SAT participation rates and total scores. The DDESS had neither an equal or better participation rate nor an equal or better total score compared with any of the 25 comparable states, and DDESS had both an equal or worse participation rate and an equal or worse total score compared with all 25 of the comparable states. The remaining 26 states are not strictly comparable with DDESS according to the 1999 SAT participation rates and total scores. DDESS does worse than all 25 of the 25 states that it can be compared with according to this measure.

2. Adjustment for Participation Rates—Elimination Procedure

The elimination procedure attempts to preserve data from more states in the comparison of DoDDS and DDESS with the nation than does the strict comparability method of the preceding section. Appendix C, tables C-10 to C-12, provide the data used for this procedure.

Appendix C, table C-10, gives the starting point for this SAT comparison. Each state's participation percentage times its fraction of the total enrollment gives the percentage of the total enrollment participating in the SAT from that state. This percentage of total enrollment participating is proportional to the number of students from that state that took the SAT. Accordingly, this percentage of total enrollment participating times the state's average SAT score per test-taking student gives a relative measure of the contribution of that state to multi-state averages. In particular, the average SAT score of any subset of states equals the sum of these contributions from the states in that subset divided by the sum of the percentages of the total enrollment participating from those states. For example, the nation's average total SAT score is the sum over all states of the state contributions, 43,173, divided by the sum over all states of the state percentage of US enrollment participating, 42.3, which is 1,021. (Note that these values lack some precision due to rounding in the table entries.)

For DoDDS, taking as the starting point all of the states in the nation—with a participation rate of 43%—the procedure eliminates states with lower participation rates, beginning with the state with the lowest participation rate. It continues until the remaining states have a participation rate of 63%, identical to DoDDS. It then compares the average SAT score of the remaining states with that of DoDDS. Appendix C, table C-11, gives the DoDDS SAT comparison. When the nation is modified to yield a 63% participation rate, the average SAT is 1,007.

Adjusting the national data by deleting states until the remaining states match the DoDDS participation rate of 63% results in those remaining states having an average total SAT score of 1,007. This is the same as the score of DoDDS.

For DDESS, taking as the starting point all of the states in the nation—with a participation rate of 43%—the procedure eliminates states with higher participation rates, beginning with the state with the highest participation rate. It continues until the remaining states have a participation rate of 34%, identical to DDESS. It then compares the average SAT of the remaining states with that of DDESS. Appendix C, table C-12, gives the DDESS SAT comparison. When the nation is modified to yield a 34% participation rate, the average SAT is 1,021. Adjusting the national data by deleting states until the remaining states match the DDESS participation rate of 34% results in those remaining states having an average total SAT score of 1,021. This is far higher than the score of DDESS.

3. Adjustment for Participation Rates—Hypothetical Score Projection Procedure

As stated previously, the smarter a student is, the more likely he or she is to take the SAT. Thus, jurisdictions with higher percentages of their students taking the SAT can expect to have somewhat lower average SAT scores because of this effect. If this assumption is valid, then there must be some function, which may depend on the school system involved, that relates expected SAT scores of students to the propensity of students to take the SAT. Furthermore, this function should have certain well-defined properties.

The purpose of this section is to demonstrate that it is possible for such a function to exist and to be consistent with the data given above. This is done by producing such a function for each of the two comparisons being made. The argument is not that the functions produced here are necessarily correct, or even close to being correct. Instead, the argument is that, if no such function could be found, then the underlying premise of the procedures above would be called into question. Conversely, exhibiting these functions provides a theoretical check on the logical consistency of the two data-driven approaches presented above.

Appendix C, annex 1, provides the detailed development of an equation and subsequent analysis that can be used to compare DoDDS and national test scores, and DDESS and national test scores for math and verbal test scores on the 1999 SAT.

As discussed above, the 1999 national SAT participation rate was 43% and the 1999 DoDDS SAT participation rate was 63%. The derived equation can be used to project the nation's scores at 43% participation to hypothetical scores that the nation might have achieved at 63% participation. If these projected national scores are comparable with DoDDS' scores, then this provides a theoretical explanation for the data-driven results of sections 1 and 2, above.

The results of the calculated data in Table III-7 are consistent with the hypothesis that DoDDS performance on the SAT in 1999 is about equal to the national average when participation rates are taken into consideration.

Table III-7. Results of Projecting the Nation's 1999 SAT Scores to the DoDDS Participation Rate

	Math	Verbal	Total
Reported 1999 average SAT scores for the nation at its 43% participation rate	511	505	1016
Calculated 1999 average SAT scores for the nation at its 43% participation rate	511.68	505.70	1017.38
Calculated 1999 average SAT scores for the nation projected to a 63% participation rate	506.42	500.64	1007.06
Calculated 1999 average SAT scores for DoDDS at its 63% participation rate	500.86	505.99	1006.85
Reported 1999 average SAT scores for DoDDS at its 63% participation rate	501	506	1007

DDESS had lower average SAT scores than the nation in 1999, and projecting those scores from DDESS' 34% participation to the nations 43% participation can only lower them further. Thus, such projections cannot change the hypothesis that DDESS performance on the SAT in 1999 is below the national average (whether or not participation rates are taken into account). Still, the derived equation can be used to estimate how far the DDESS average scores would be below national average scores if participation rates were considered. The equation can be used to project scores from a 34% participation rate to a 43% participation rate. The results of those calculations are given in table III-8. They are consistent with the hypothesis that DDESS performance on the SAT in 1999 is well below the national average when participation rates are taken into consideration.

Table III-8. Results of Projecting the DDESS 1999 SAT Scores to the Nation's Participation Rate

	Math	Verbal	Total
Reported 1999 average SAT scores for DDESS at its 34% participation rate	474	483	957
Calculated 1999 average SAT scores for DDESS at its 34% participation rate	473.65	482.57	956.22
Calculated 1999 average SAT scores for DDESS projected to a 43% participation rate	472.59	481.44	954.03
Calculated 1999 average SAT scores for the nation at its 43% participation rate	511.68	505.70	1017.38
Reported 1999 aerage SAT scores for the nation at its 43% participation rate	511	505	1017

d. Comparative Results for Several Local Areas

Additional comparisons were done to see how some local school districts where military children attend school compare to DoDDS and DDESS.

1. CTBS Results for Two School Districts in North Dakota

The two school districts in North Dakota with the largest percentages of children of military families are Grand Forks School District and Minot School District. Grand Forks has an enrollment of 8,559 students, and Minot has an enrollment of 7,493 students. Grand Forks has 10.2% children from military families and Minot has 22.5% children from military families. Grand Forks School District educates children whose families are associated with Grand Forks Air Force Base, and Minot School District educates children whose families are associated with Minot Air Force Base.

Data were obtained from the North Dakota Department of Education on 1999 CTBS percentile scores for three subjects—reading, language, and mathematics—for grades 4, 6, 8 and 10. CTBS percentile scores for DoDDS and DDESS in 1999 were available. Table III-9 contains data on these CTBS scores.

Table III-9. CTBS Comparison with Grand Forks and Minot, North Dakota

	Grade 4	Grade 6	Grade 8	Grade 10	Average
Reading					
Grand Forks	66	66	74	74	70
Minot	69	66	67	76	70
DoDDS	68	65	65	72	68
DDESS	66	62	62	68	65
Language					
Grand Forks	66	69	72	73	70
Minot	67	68	65	73	68
DoDDS	66	69	69	72	69
DDESS	63	66	66	66	65
Mathematics					
Grand Forks	65	69	70	76	70
Minot	68	66	67	78	70
DoDDS	64	65	64	70	66
DDESS	64	64	59	64	63

Source: North Dakota Department of Education Web site: <www.dpi.state.nd.us>.

The scores of Grand Forks and Minot are almost always higher than the scores of DoDDS and DDESS. The differences are captured in the averages presented in the rightmost column of table III-9. Grand Forks has higher average scores than DoDDS and DDESS for all subjects. Minot has higher average scores than DoDDS for reading and mathematics and a lower average score than DoDDS for language. Minot has higher average scores than DDESS for all subjects.

2. CTBS Results for Two School Districts in Missouri

The two school districts in Missouri with the highest percentages of children of military families are Waynesville (58%) and Knob Noster (57%). Waynesville includes Fort Leonard Wood, and Knob Noster includes Whiteman Air Force Base.

Data were obtained from the State of Missouri for these two districts on performance on the CTBS for three tests also taken by DoDEA—mathematics, science, and social studies (partial data). These data are for three grades, not the same in all cases, beginning with grade 3 and ending with grade 11. Since DoDEA administers these tests (as well as reading and language arts) for all grades 3 through 11, there were comparable data for DoDEA.

Table III-10 presents data on the three scores for Waynesville and Knob Noster and for DoDDS and DDESS. Waynesville and Knob Noster scores are usually in the 60s, as are those for DoDDS and DDESS. The scores are much higher than the national average of 50. Note that statewide Missouri averages are slightly below 60.

Table III-10. CTBS Comparison with Waynesville and Knob Noster

Mathematics	Grade 4	Grade 8	Grade 10	Average
Waynesville	66	75	70	70
Knob Noster	64	59	59	61
DoDDS	64	64	70	66
DDESS	64	59	64	62
Science	**Grade 3**	**Grade 7**	**Grade 10**	**Average**
Waynesville	74	68	65	69
Knob Noster	74	65	61	67
DoDDS	57	63	68	63
DDESS	64	59	64	62
Social Studies	**Grade 4**	**Grade 8**	**Grade 11**	**Average**
Waynesville	57	—	—	57
Knob Noster	65	69	51	62
DoDDS	67	66	74	69
DDESS	63	61	70	65

Source: 1999 Missouri School Directory Web site: www.<desse.state.mo.us>.

Children from Fort Leonard Wood and Whiteman Air Force Base can thus expect to receive an education that is about the same as they are receiving in the public schools if they are transferred to a base served by DoDDS or DDESS.

3. CTBS Results for Two School Districts in Nevada

The two school districts in Nevada with the largest percentages of children of military families are Churchill School District and Clark School District. Churchill has an enrollment of 4,766 students and Clark has an enrollment of 190,822 students. Churchill has 13.4% children from military families and Clark has 2.1% children from military families. Churchill is associated with Fallon Air Force Base and Clark is associated with Nellis Air Force Base.

Data were obtained from the Nevada Department of Education on 1998 CTBS percentile scores for four subjects—reading, language, mathematics and science for grades 4, 8, and 10. CTBS percentile scores for DoDDS and DDESS in 1998 were not available, so their 1999 scores were used as an approximation. Table III-11 contains data on these CTBS scores.

Table III-11. CTBS Comparison with Churchill and Clark

	Grade 4	Grade 8	Grade 10	Average
Reading				
Churchill	49	56	61	55
Clark	48	52	50	50
DoDDS	68	65	72	68
DDESS	66	62	68	65
Language				
Churchill	44	51	58	51
Clark	53	49	55	52
DoDDS	66	69	72	69
DDESS	63	66	66	65
Mathematics				
Churchill	52	51	53	52
Clark	56	49	51	52
DoDDS	64	64	70	66
DDESS	64	59	64	62
Science				
Churchill	56	54	64	58
Clark	50	49	56	52
DoDDS	65	67	68	67
DDESS	67	67	64	66

Source: Nevada Department of Education web site: <www.nsn.k12.nv.us>

Of the 12 test results in table III-11, Churchill and Clark always have lower scores than DoDDS and DDESS except for one tie (Churchill and DDESS, science, grade 10).

4. CTBS Results for Two School Districts in Kentucky

The two school districts in Kentucky with the largest percentages of children of military families are Hardin County School District and Christian County School District. Hardin County School District has an enrollment of 12,073 students and Christian County School District has an enrollment of 8,007 students. Hardin County School District has 8.7% children from military families, and Christian County School District has 8.5% children from military families. Hardin County School District educates children whose families are associated with Fort Knox, and Christian County School District educates children whose families are associated with Fort Campbell.

Data were obtained from the State of Kentucky on 1999 CTBS percentile scores for three subjects—reading, language and mathematics—for grades 3, 6, and 9. CTBS percentile scores for DoDDS and DDESS in 1999 were available. Table III-12 contains data on these CTBS scores.

Table III-12. CTBS Comparison with Hardin and Christian

	Grade 3	Grade 6	Grade 9	Average
Reading				
Hardin County	48	50	50	49
Christian County	44	46	43	44
DoDDS	58	65	71	65
DDESS	62	62	67	64
Language				
Hardin County	47	48	45	47
Christian County	42	44	43	43
DoDDS	61	69	71	67
DDESS	62	66	67	65
Mathematics				
Hardin County	50	50	42	47
Christian County	42	42	35	40
DoDDS	58	65	66	63
DDESS	63	64	59	62

Source: Spring 1999 Kentucky School and District Results; CTBS/% Survey Edition

The scores of Hardin County School District and Christian County School District are always much lower than the scores of DoDDS and DDESS. The differences are captured in the averages presented in the rightmost column of table III-12.

5. SAT Results for the Washington, D.C. Metropolitan Area

In table III-13 are 1999 SAT scores and participation rates for selected school districts in the Washington metropolitan area as well as for DoDDS and DDESS.

Table III-13. SAT Comparison with Washington, DC Metropolitan Area School Districts

School District	SAT Verbal	SAT Math	SAT Total	% Participation
Montgomery County, MD	540	556	1096	79
Prince George's County, MD	499	440	939	53
Fairfax County, VA	541	553	1094	84
Prince William County, VA	519	505	1024	61
Washington, DC	494	478	972	77
DoDDS	506	501	1007	63
DDESS	483	474	957	34

Source: FY 2000 Metropolitan Area Boards of Education Guide, produced by Fairfax County Public Schools, October, 1999.

Montgomery County, Maryland, and Fairfax County, Virginia, score significantly higher and have higher participation rates than DoDDS and DDESS. Prince George's County, Maryland, scores lower than DoDDS and DDESS; its participation rate is lower than DoDDS and higher than DDESS. Prince William County, Virginia, scores higher than DoDDS and DDESS; its participation rate is lower than DoDDS and higher than DDESS. Washington, DC, scores lower than DoDDS and higher than DDESS. Its participation rate is higher than both DODDS and DDESS.

e. Inconsistency Among NAEP, CTBS/Terra Nova and SAT Results

NAEP results in DoDDS and DDESS are well above average in reading and writing, about average in mathematics, and above average in science. CTBS results are in the middle to high 60th percentiles for DoDDS and in the low to middle 60th percentiles for DDESS. SAT results, however, are average for DoDDS and below average for DDESS. The following attempts to determine if there is an explanation for this inconsistency.

1. Aptitude Versus Achievement

It is possible that the SAT scores measure intellectual aptitude for college, that DoDDS students taking the test are of average aptitude among college-bound students, and that DDESS students taking the test are of below-average aptitude among college-bound students.

Coupled with this it is also possible that DoDDS and DDESS teach students very well in the sense of enabling mastery of the material taught at various grade levels as measured by the NAEP and CTBS achievement tests. The NAEP results are particularly persuasive in this regard. Additionally, the CTBS scores for DoDDs and DDESS are far higher than in many states and are comparable with the CTBS scores attained by students in better school districts in selected states.

2. The Effect of the Antilles District High Schools

The low DDESS score might be due to the fact that, in Puerto Rico, Spanish is the first language of many children attending the DDESS schools. Data from the 1998–99 Accountability Reports show that the 1999 average SAT score for the three high schools in Puerto Rico was 903. There are eight high schools in DDESS. The 1999 average SAT score for the other five high schools was 1,009. The average SAT score for all DDESS schools was 957.

3. A General Explanation

In the NAEP, on a national basis, DoDDS and DDESS perform better than most states in grade 4 reading and better than almost all states in grade 8 reading and writing. DoDDs and DDESS perform about average in grade 4 and grade 8 mathematics and above average in grade 8 science.

On the CTBS/Terra Nova DoDDS consistently scores in the middle to high 60th percentiles and DDESS consistently scores in the low to middle 60th percentiles. In DoDDS and DDESS CTBS/Terra Nova performance tends to be higher in secondary school.

In the performance of minority students and in the performance of students in the lower percentiles, DoDDS and DDESS tend to do much better than the national average in the NAEP.

These three results, taken together, indicate that DoDEA may not be dealing with a proportional number of students who are representative of the bottom levels of the nation's students with respect to economic and cultural background. Instead, the DoDEA test scores might be comparable with those attained by that portion of the nation's students whose economic and cultural backgrounds are equivalent to those of DoDEA students, which may be much higher, on average, than for the nation's students as a whole.

Also confirmatory of this explanation is the observation that NAEP test scores tend to rise with grade level, as do the Terra/Nova percentiles in secondary school. This may correlate with the relative economic and cultural levels of the parents of these children. Higher-ranking officer and enlisted personnel have been competitively selected from a larger pool of candidates and so should have stronger economic and cultural characteristics.

Finally, the seeming anomaly of the SAT test results may have a simple explanation. Setting aside the DDESS results because of the effects of the Antilles District, the DoDDS participation rate of 63 percent may be equivalent to the nationwide participation rate of 43 percent if one-quarter of the nation's seniors in high school have significantly lower levels of economic and cultural advantage compared with the seniors in DoDDS. A 63 percent participation rate of a top 75 percent cohort is 47 percent, quite similar to the national participation rate of 43 percent.

f. A Theoretical Model of DoDEA Student Scores

1. The Underlying Hypothesis

The basic hypothesis is that DoDEA students are significantly above average in a particular way (described later), where "above average" means above the national average in intelligence and in academic test-taking ability. Being above average, they should be expected to achieve above average scores on tests taken by all, or by a representative sample, of DoDEA students. In particular, the above average scores that they achieved on NAEP and CTBS tests may be: 1) partially due to their above average intelligence and academic test-taking ability, and partially due to the DoDEA system which, accordingly, would be better than the average national public education system, or 2) entirely due to their above average intelligence and academic test-taking ability, and so the DoDEA system may be about equal to the average national public education system, or 3) less than they could have achieved, given their above average intelligence and academic test-taking ability, had not a below average DoDEA system been holding them back. This hypothesis implies that one of these three cases must hold, but it does not indicate which one holds.

The hypothesized way that the DoDEA students are above average is as follows. On an absolute basis, the bottom end (e.g., the number of students who score below a given value on a given test) of DoDEA students is, on average, a lower percentage of the total number of DoDEA students than is the corresponding bottom-end percentage for the nation's public school students. Conversely, on a conditional basis, the scores of the students who are in the top end have about the same distribution for DoDEA as they have for the nation's public school students.

If the number of bottom-end DoDEA students is a lower percentage of the total number of DoDEA students than is the corresponding percentage for the nation's public school students, then the number of top-end DoDEA students is a higher percentage of the total number of DoDEA students than is the corresponding percentage for the nation's public school students. Thus, this hypothesis (at least partially) explains why the DoDEA SAT participation rate is higher than the national SAT participation rate. However, given that a DoDEA student is in the top end (and so is likely to take the SAT), this hypothesis says that the DoDEA student is, on average, about the same as the national average top-end student (who is also likely to take the SAT). Thus, this hypothesis also (at least partially) explains why DoDDS students' scores on the SAT are roughly equivalent to the national average even though their NAEP and CTBS scores are much higher. (DDESS SAT scores are lower than the national average because of the Antilles schools.)

2. Theoretical Rationale for this Hypothesis

First, this rationale argues that a child's intelligence (and academic test-taking ability) is correlated with his or her parents' (or guardian's) income and intelligence at the low end of parents' income and intelligence levels. Of course, it may be correlated with parents' income and intelligence throughout the spectrum of income and intelligence levels; however, while this broader correlation is sufficient, it is not necessary here. The argument needed here is only that this correlation must hold at the low end. Thus, for example, a statistical test that covered the whole spectrum of parents' income and intelligence levels and found little or no correlation with their children's intelligence would not necessarily invalidate this argument, while one that covered this spectrum and found a high correlation except at the low end might do so, depending on whether anything was able to be concluded about the low end.

Second, this rationale argues that, with the exception of a statistically insignificant number of cases, the lowest compensation level of the sponsors of DoDEA fourth grade students is some pay-grade level, say that of that of an E-5 with 6 years of service. That is, the DoDEA student's NAEP and CTBS scores are essentially achieved by children who have a parent or guardian who is at least an E-5 with 6 years of service (YOS). This grade and YOS assumption is an estimate with no data to support it, but it seems like a reasonably conservative estimate. If this is the case, then, in terms of intelligence, this parent or guardian must have passed the tests necessary to enlist in a military service, and must have performed well enough to have been promoted four times and have been accepted for re-enlistment. In terms of income, the average annual regular military compensation of an E-5 with 6 YOS in 1999 was over $31,000. (Regular military compensation includes basic pay, average basic allowance for housing, basic allowance for subsistence, and an estimate of the federal tax advantage of these allowances. It does not include state or local tax advantages, nor does it include any benefits, such as medical benefits, retirement, or annual leave. It does not include an estimate of any other income, such as spousal income, that a household might have.)

Third, this rationale argues that there are a statistically significant number of students in the nation's public schools whose parents or guardians do not have the intelligence level necessary to pass the tests to enlist in a military service and then to perform well enough to be promoted four times and to be accepted for reenlistment. It is likewise argued that a statistically significant number of students in the nation's public schools come from households whose annual income is significantly less than $31,000.

This third argument means that the students whose parents' intelligence levels or income are significantly below that of an E-5 with 6 YOS form a statistically significant set of students who are in the nations public schools and so who are considered in national average test scores. By the first argument above, these students, on average, lower the nation's average test scores. By the second argument, the corresponding set of students in DoDEA schools is not statistically significant, and so such students do not substantially affect DoDEA test scores.

Fourth, this rationale argues that this is the only statistically significant difference in intelligence and test-taking ability between DoDEA students and the nation's public school students. In particular, while there are some civilian parents whose incomes or intelligence levels are greater than those of any military parent, the number of children of such parents who are in public schools is arguably an insignificant percentage of the total number of public school students.

Finally, this rationale argues that, conditional on their intelligence being over some threshold, the statistical characteristics of the intelligence of students are essentially independent of their parents' intelligence levels or incomes. (This argument is only needed to explain why the DoDDS SAT score is about the same as the national average. In particular, the average total DoDDS SAT score over 1997, 1998, and 1999 is 1,014, while the national average over these three years is 1,017.)

The details of the theoretical model are provided in appendix C, annex 2. This model has not been validated, as the data necessary to do so are unavailable. If DoDEA is interested in refining this analysis, selected data collection would be required.

3. Some Practical Considerations

First, other than giving the average annual regular military compensation of an E-5 with 6 YOS, no data are presented here to support the hypothesis above.

Second, even if this hypothesis is accepted as being valid (perhaps because educational researchers have already established the first part of the theoretical rationale above, and the rest is "obviously true"), data are still needed to determine which of the three cases described in the underlying hypothesis paragraph holds. One path towards obtaining such data is to ignore household income and, instead, to concentrate on estimating the distribution of the intelligence (somehow defined) of the parents of the nation's public school students and of parents of DoDEA students, in addition to determining the correlation of such intelligence to student's scores. This path has many risks.

A potentially less risky path is to ignore parent's intelligence (except indirectly through income) and, instead, to concentrate on 1) estimating the distribution of the household income of the nation's public school students and of DoDEA students, and 2) determining the correlation of household income to student's scores.

4. Conclusions

On the NAEP, DoDDS and DDESS are well above average in reading and writing, about average in mathematics, and above average in science. On a national basis, DoDDS and DDESS perform better on the NAEP than most states in grade 4 reading and better than almost all states in grade 8 reading and writing. DoDDS and DDESS perform about average in grade 4 and grade 8 mathematics and above average in grade 8 science.

DoDDS and DDESS minority students perform much better than minority students in the nation. DoDDS and DDESS lowest-scoring students perform better than lowest-scoring students in the nation. DoDDS and DDESS highest-scoring students perform slightly better than highest-scoring students in the nation.

On the CTBS/Terra Nova, DoDDS consistently scores in the middle to high 60th percentiles and DDESS consistently scores in the low to middle 60th percentiles. In DoDDS and DDESS, CTBS/Terra Nova performance tends to be higher in secondary school.

It is not possible to interpret the performance of DoDDS and DDESS on the CTBS/Terra Nova in a comparison across all states because not all states take the test. Based on comparisons for school districts in a selected variable sample, DoDDS and DDESS compare favorably with, and outperform, many U.S. school districts.

When SAT results are compared without considering participation rates, DoDDS and DDESS both score below the national average (national – 1,016, DoDDS – 1,007, and DDESS – 957). Attempting to correct for participation rates, DoDDS performs about equal to the national average, and DDESS performs below the national average. The low DDESS SAT scores might be due to the impact of one school district on the overall DDESS average. As a result, comparison of DDESS performance on the SAT may not necessarily be a valid indicator of true performance, and should not be accepted without further analysis.

5. Recommendation

DoDEA should assess the different SAT preparation programs available and those offered in the DoDEA high schools, and develop a program that will be the most effective and beneficial for preparing students for the SAT.

B. COLLEGE ATTENDANCE

1. Issue

Are DoDEA high school graduates competitive for admission to the best colleges and universities in the United States?

2. Summary of Interviews

Some parents and military leaders stated that they did not think that DoDEA students were adequately prepared to compete and be accepted into top colleges and universities, to include the Service Academies. Most high school educators thought that DoDEA did a good job of preparing students to succeed. A high percentage went on to college. Most of those who did not go to college went to work in the public sector or joined the military.

3. Analysis

Table III-14 presents post-secondary plans of SY 98–99 DoDEA high school graduates.[1] Based on these data, 73.4% of the graduates attended a college or university. The college enrollment rates of high school graduates were 65% in 1996, 67% in 1997, and 65.6% in 1998.

Table III-14. Post-Secondary Plans for DoDEA HS Graduates

	DDESS	DoDDS-Europe	DoDDS-Pacific	DoDEA
4-yr. College/Univ.	330	953	414	1697
2-yr. College/Univ.	68	272	159	499
Vocational School	28	33	8	69
Job	51	149	57	257
Military	57	147	80	284
Apprentice	2	10	1	13
Undecided	17	135	20	172
Total	553	1699	739	2991
Non-Graduates	19	48	21	88

Attendance at the top colleges and universities was analyzed to determine how well DoDEA high school graduates compared with the U.S. high school population. Two comparisons were made: one with college-bound students only, the other with all high school graduates.

DoDEA requested that each school provide the names of colleges and universities that the seniors planned to attend after graduation and the number of students planning to attend each institution. They were to provide only those schools that students most likely would attend, not all schools to which they had been accepted. Of the 2,196 students planning to attend 4-year or 2-year colleges, DoDEA received the requested data on 1654 students.[2] Those students will attend 690 different colleges and universities.

The data on schools to be attended was compared with the top tier colleges and universities identified in the *U.S. News & World Report* "Best Colleges 2000." The annual rankings were based on criteria established by USN&WR and the categories of colleges and universities are based on categories developed by the Carnegie Foundation for the Advancement of Teaching.[3] Table III-15 shows the distribution of top tier universities and colleges that DoDEA students will attend.

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[1] "Post Secondary Plans and Financial Aid – 1999 DoDEA Graduates," DoDEA Research and Evaluation Branch, October 1999.

[2] Ibid.

[3] "America's Best Colleges, 2000," *U.S. News & World Report*, August 30, 1999.

Table III-15. DoDEA HS Graduate Attendance at Top Tier Universities & Colleges

		College and Universities		
University & College Categories (4-year)	# Students	Planning to Attend	Top Tier	Total Ranked
National Universities	142	39	50	228
National Liberal Arts Colleges	9	7	40	162
Regional Universities-North	7	5	38	146
Regional Universities-South	39	18	33	123
Regional Universities-Midwest	13	9	37	123
Regional Universities-West	16	11	28	112
Regional Lib. Arts Colleges-North	4	3	27	98
Regional Lib. Arts Colleges-South	12	11	33	131
Regional Lib.Arts Colleges-Midwest	6	5	34	139
Regional Lib.Arts Colleges-West	24	3	16	61
Service Academies	28	5		
Total	300	116	336	1323

Of the 1,654 students who reported the university or college they were to attend, 142 were to attend 39 of the 50 national universities and 9 were to attend 7 of the top 40 national liberal arts colleges. When the Service academies, regional universities, and liberal arts colleges are included, 300 students were to attend 116 of the 336 top tier universities and colleges. Although not all students reported the university or college they would attend, 17.7% of those who did were to attend top tier universities and colleges.

Among college-bound DoDEA HS graduates who reported the college or university they were to attend, 9.1% (151 of 1654) of the students attended one of the top universities or colleges. In 1997, there were 6.845 million undergraduate students attending a 4-year university or college. Based on projections, the 1999 enrollment would have been 7.101 million students.[4] In 1999, there were 653,569 undergraduate students in the top 50 national universities and top 40 national liberal arts colleges.[5] Thus the attendance at top universities and colleges was about 9.2% of all 4-year colleges.

Of all DoDEA students graduating from high school in 1999, at least 151 of 2,991, or at least 5.0%, planned to attend top universities and colleges. In 1998, 2.81 million students graduated from high school. Assuming a 1.5% increase in graduates (the same as from 1997 to 1998), there were 2.852 million graduates in 1999. In 1997, 2.7% of the undergraduates attending 4-year institutions were non-resident aliens.[6] Assuming the same percentage in 1999, of the

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[4] U.S. Department of Education, Digest of Education Statistics, May 2000.

[5] "America's Best Colleges, 2000," *U.S. News & World Report*, August 30, 1999, Printable College Rankings, Web site: <www.usnews.com/usnews/edu/college/coranknf.html>.

[6] U.S. Department of Education, NCES Report, "Fall Enrollment in Post Secondary Institutions, 1997," November 1999.

653,569 undergraduates attending the top universities and colleges, 635,922 were U.S. students. Assuming that the number of U.S. freshmen attending the top universities and colleges is one-fourth of the total 635,922 undergraduates, there were 158,980 U.S. freshmen. The number of freshmen that attended college within 12 months of graduation from 1995–97 averaged 77.9% of the total first-time freshman enrolled in colleges and universities. Therefore, the number of freshmen attending the top universities and colleges directly from high school in 1999 would have been about 123,845. The attendance at top universities and colleges would be 123,845 of 2.852 million, or 4.3%.

The data used by colleges and universities to determine who will be offered admission usually include both subjective and objective data, but schools weigh the importance of various factors differently. Objective data may include SAT/ACT scores, grade point average, class standing, course curriculum, etc. Subjective data may include leadership attributes, community service, extracurricular activities, minority status, family members who attended the university, etc. It would appear that the applications of DoDEA high school graduates meet or surpass the criteria established by the respective institutions in deciding who will be offered admission.

Students may choose not to apply to top colleges and universities based on any number of variables not related to their academic achievements or ability, e.g., tuition rates, location of school, where parents graduated, even though they may be accepted if they do apply. This is true not only for DoDEA high school graduates, but for all high school graduates.

4. Conclusions

The percentage of DoDEA high school graduates who attended a college or university was significantly higher than the national average. Only 75% of the students who attended a college or university provided the name of the institution. There is no way to know how this analysis would have been affected if the information had been available. Based on the data available about DoDEA HS graduate college attendance plans, the DoDEA students are as competitive or more competitive for admission to the best colleges and universities in the U.S. when compared with their peers nationally.

5. Recommendation

None

IV. CURRICULUM

A. CURRICULUM CONTENT STANDARDS

1. Issue

Does DoDEA have well-defined and challenging content standards that everyone understands?

2. Summary of Interviews

Parents are concerned about how well their children will perform in other school systems, i.e., will the DoDEA curriculum allow them to compete effectively in any other school system? Likewise, the DoDEA curriculum must support the education of students who have been involved in several curriculum programs throughout the country. Parents wanted to have confidence that a quality curriculum is used in the schools.

Many of those interviewed were aware of the *DoDEA-DoDDS Curriculum Standards Manual* and had seen a copy of it. Some parents had heard about curriculum standards but were not aware of what they were. In one school neither the parents and teachers nor the principal had seen the *DoDEA-DoDDS Curriculum Standards Manual*. All stakeholder groups felt strongly that curriculum standards should be aligned vertically and horizontally across grades and subject areas. All stated that curriculum standards would be a good accountability tool, and would provide consistency and understanding of what is taught in the schools. Although the manual did not cover all areas, they did appreciate the initial emphasis on the core areas of language arts and reading, mathematics, science, and social studies.

There were many concerns expressed about the manual. Educators and parents found it hard to interpret. Some parents did not understand the standards. Although it listed standards for each year, in each area, it was difficult to determine the progression of learning. Many of the standards were repeated from grade to grade, so it was not clear what a child should actually learn in each grade. Rather than being concise, consistent and measurable, many thought it was more a smorgasbord of topics in no particular order.

Educators and parents thought that in some areas there were too many standards, and that it would be difficult for a teacher to adequately cover all of them in one year. Teachers felt overwhelmed by the extent of the material that was to be taught in some grades or courses. Many of the educators did not think the manual was well written, and that it should be reviewed and rewritten. Some questioned who was involved in developing the standards, because of the perceived lack of a quality product.

DDESS educators expressed dissatisfaction at being told to implement content standards for which they had no input. All input came from DoDDS and DoDEA headquarters. Prior to the publication of the manual, there had been no centralized guidance about curriculum, especially in DDESS. Each district developed its own curriculum, purchased its own textbooks, etc. Now they are trying to see how to match the textbooks they are using with the curriculum standards. A few teachers stated they are not using the curriculum standards in their class. Most of those interviewed stated that they were glad to see DoDEA moving to DoDEA-wide standards, textbook purchases, etc. There should be consistency between DDESS and DoDDS.

DoDEA established performance standards for language arts and reading and mathematics, but implementation cannot occur until negotiations are completed with the unions. Most parents and educators did not see a need for DoDEA to develop an assessment test that would require a certain score for advancement or graduation as is being done in many states now. DoDEA headquarters personnel stated that DoDEA is on track with its stated schedule for adopting textbooks and training teachers against the content standards.

Implementation of the requirement to have 2 years of the same foreign language as a prerequisite for graduation was thought to be good; however, parents and students at the high school level thought it might be difficult to do so, especially in small schools.

3. Analysis

a. Background

Answering the question "What should all American students know, and how will we know if they have learned it?" has been a priority of federal and state educators, administrators, policymakers, and politicians throughout the 1990s. Many note the publication of *A Nation at Risk* in 1983 as the beginning of the push for K–12 standards.

This report of President Reagan's National Commission on Excellence in Education discussed the poor state of America's schools. In 1989, President Bush convened the first national education summit at which the nation's governors committed themselves to seven national goals for American education to be attained by the year 2000. Content standards are related to two of the goals:

- All students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our Nation's modern economy.
- U.S. students will be first in the world in mathematics and science achievement.

Following the 1989 summit, a few states began to develop state standards for K–12 schools, while the federal government also funded efforts to develop national K–12 standards. At roughly the same time, the National Assessment of Educational Progress (NAEP) was redesigned to begin reporting state-based data on student achievement in the content areas identified. A growing number of states and school districts began to develop their own sets of student expectations. The results of the Third International Math and Science Study (TIMSS) in 1996 revealed that American students were far from being "first in the world," as the 1989 goals had planned.

The second national education summit, in 1996, also encouraged work on standards. State governors and corporate CEOs resolved, among other things, to develop academic standards, assessments aligned to the standards, and systems for holding schools accountable for meeting the standards. They also resolved to establish a non-governmental entity that would provide technical assistance to the states. Achieve, Inc., a non-partisan organization established in 1999, provides assistance to states trying to improve the quality of their state standards and assessments. They emphasize the importance of alignment between state standards and the high-stakes assessments that are increasingly used to measure student achievement against the standards.

Every state but Iowa has adopted content standards in at least some subjects and 44 have standards in all four core areas of language arts/reading, science, mathematics, and social studies.[1] The emphasis in many states now has begun to shift to implementation and the development of performance standards.

As students are being asked to perform to higher standards and facing consequences for not meeting them, states are trying to ensure that students and teachers have access to curricula and materials, especially textbooks, that are aligned to the standards. States appear to remain committed to the components of education reform: standards, assessment, and accountability.

b. Parent's Guide

On the DoDEA Web site there is a *Parent's Guide, Grade _ Curriculum* for each grade, pre-kindergarten through grade 6, that is designed to provide a sample of what students are learning and what they should know and be able to do when they complete that grade. Parents are directed to consult with the teacher or principal to see the entire curriculum. Because the *DoDEA-DoDDS Curriculum Standards Manual* is constructed by subject area, the "Parent's Guide" appears to facilitate a focus on what a child should be learning, without having to go through the entire book, but may leave parents confused about what the real expectations are for students. Table IV-1 indicates the number of standards in the *Parent's Guide, Grade 3 Curriculum* compared with the standards in the *Curriculum Standards Manual*.

Table IV-1. Curriculum Standards for Grade Three

	Parent's Guide	Standards Manual	% in Guide
Language Arts/Reading	33	183	18%
Mathematics	26	83	31%
Science	20	48	42%
Social Studies	27	104	26%
Total	106	418	25%

Although the standards for the *Parent's Guide* are taken verbatim from the *DoDEA-DoDDS Curriculum Standards Manual*, the rationale for the their selection is not obvious. DoDEA officials report that curriculum coordinators convened to excerpt the most "understandable" standards for parents. The *Parent's Guide, Grade 3 Curriculum* is 17 pages long, 11 pages of which cover the selected standards. To print all of the grade 3 standards from the *DoDEA-DoDDS Curriculum Standards Manual* on the DoDEA Web site requires 12 pages. The few standards selected from among all of the standards seems counterproductive in trying to inform parents about what students in DoDEA schools should be learning. Perhaps there should not be 183 standards.

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[1] *Education Week, Quality Counts 2000*, January 13, 2000.

c. Content Standards

A review of the *DoDEA-DoDDS Curriculum Standards Manual* (DoDEA Manual 200.4-1, September, 1998) focused on evaluating how well DoDEA's education standards compare with those of high-performing states and nations, and if the academic expectations for DoDEA's students and schools are rigorous enough. The review will refer to content standards as opposed to curriculum standards. "Curriculum" refers to a course of study that should consist of content standards and performance standards. The four major content areas (language arts/reading, mathematics, science, and social studies) were reviewed and an overall assessment of each area is provided. Each of the content areas was evaluated to a limited extent, but there was no attempt to evaluate each standard. A more detailed review was done for language arts/reading and mathematics because these areas are considered the most essential starting points for a review for any system.

The criteria for evaluating the standards are in appendix D, table 1. They were developed with consideration for those used by leading organizations: the American Federation of Teachers, the Council for Basic Education, Standards Work, The Thomas B. Fordham Foundation, and Achieve, Inc., all of which conduct standards reviews and analyses for both states and local school districts.

1. DoDEA Content Standards – Strengths
    - grade-by-grade specificity
    - an attempt to demonstrate progression across grades
    - an effort to cover the breadth and depth of key content domains

Grade-by-grade organization, rather than in clusters of grades, provides a useful format to delineate the standards. This provides guidance to educators and helps clarify what students are expected to learn at each grade level.

Demonstrating a progression in content knowledge and skills across grades is an important aspect of standards, one that specifically addresses questions of student mobility. Clearly delineated expectations for each grade can ensure that students do not waste valuable instructional time on content they have already mastered. They also ensure that students will not miss important content just because they must switch schools.

This structure helps schools and teachers design instructional programs that enable students to progress from grade to grade. It also has the potential for making performance expectations for teachers clear, so that content, and therefore students, don't "fall through the cracks" because lines of responsibility are not clearly drawn. DoDEA parents can also understand what learning is expected in every grade.

The DoDEA standards have attempted to delineate all the major domains within the content areas, e.g., reading and writing in language arts/reading; computation and estimation, algebra, geometry, etc., in mathematics.

2. DoDEA Content Standards – Areas Needing Improvement

The DoDEA standards appear less rigorous than notable "benchmark" standards from other states and nations (Arizona, California, Massachusetts, North Carolina, Texas, Virginia and Japan).[2] The areas needing improvement are:

- The language of the standards is broad, leaving too much interpretation up to individual teachers.
- Many standards are repeated from grade to grade, making points of mastery difficult to determine.
- In some places more rigorous content appears to precede less difficult content.
- Some important content is missing.
- Many standards cannot be assessed and/or they describe skills in the abstract, resulting in standards that are devoid of academic content.

Vaguely worded standards may rarely lead to very rigorous curriculum, depending on teacher interpretations, but more often they precipitate loose interpretations and therefore "lowest common denominator" expectations for students. Repetition exacerbates the student mobility problem. Erratic presentation of content may cause students to lose motivation for building on previously developed skills and on already "harnessed" knowledge. Difficult choices must be made about what to include in and what to exclude from core academic content.

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[2] Achieve, Inc., convened a wide variety of content area experts to evaluate over 20 highly acclaimed sets of standards with the goal of reaching consensus on benchmark documents for English language arts and mathematics in 1999. For more information, see <www.achieve.org>.

The next four sections analyze the areas needing improvement by content area. Appendix D, tables D-2 through D-8, provide side-by side charts that illustrate the comparisons mentioned in the analysis between the DoDEA language arts/reading and mathematics standards. Recommendations for improving the standards in each content area are interwoven with the analysis.

3. Language Arts/Reading

Vaguely worded content makes rigor elusive.

If the language of standards is not specific, rigor is impossible to determine. For example, the standards "Demonstrate an appreciation of literary forms," and "Recognize a variety of works from authors and illustrators," do not indicate which literary forms are intended. How will teachers know? Which works "from authors and illustrators" are intended? *Thor* comic books? Shakespeare's *Julius Caesar?* A reading list of required or sample readings, to illustrate the quality and complexity of reading materials at each grade level, might obviate the problem specifically discussed here, but sketchy language abounds throughout the standards, e.g. "Explain the history of selected words," "Write frequently for practical and academic purposes," "Use an ever-expanding vocabulary," "Outline information."

When clarity and specificity of the DoDEA standards are compared with the highly praised standards outlined for other states, they appear far less specific, and therefore less rigorous, and are less transparent for teachers, students, and parents. See appendix D, table D-2, for a comparison of the grade 3 DoDEA vocabulary with the standards for grade 3 in California. The DoDEA standards do not delineate any specific word analysis or comprehension skills. A standard such as "explain multiple meanings of words" could easily be a grade 12 standard as well, depending on the words, but no guidance is given.

Repetition of content makes points of competency impossible to determine.

Compounding the issue of vague language, many standards are repeated verbatim from year to year. This makes it impossible for teachers to know which of the standards they are responsible for delivering to the students. Where the responsibility of teachers is left unclear, students are vulnerable to "mile-wide, inch-deep" repetitions year-to-year.[3] Alternatively, they are left vulnerable to missing important content completely. Both scenarios are possible if students move from one school to another and teachers are interpreting the broadly worded standards differently. See appendix D, table 3, to compare how the grade 3 vocabulary standards discussed above differ, or do not differ, from the standards for the same content in grades 2 and 4. One standard is listed twice within two grade levels (grades 2 and 3), and all of the standards are repeated from grades 2 through 4, except one that is deleted at grade 4, despite the addition of a very similar standard in its place. Only one new standard is added at grade 3, one which is difficult to understand without a sample reading passage to illustrate what "basic" vocabulary in "grade-level materials" is. Many of these standards are difficult to assess; the two additions at grade 4 are similarly difficult to verify or measure. With more specific guidance, teachers might be able to assess these at the classroom level, but they cannot distinguish grade 3 work from the other grades.

Erratic progression of some content sends mixed signals about competency.

Where content is not repeated verbatim (i.e., in the places where new content is added at a subsequent grade level), there is a different problem. It appears in some cases that less complex content is introduced after the more difficult, related content that precedes it. For example, students in grade 8 must "Analyze idioms and symbolic language," yet in grade 9 they need only "Understand simple figurative language," an expectation that is then repeated throughout subsequent grades. In addition, in grade 4, students had already been expected to "Increase use of figurative language."

There is a good effort to delineate specific standards on the structure and proper use of the English language, though again there are some inconsistencies and repetitions that could be streamlined to greater effect. For example, it seems strange that in grade 7 students are asked to "Use commas correctly," "Use semicolons correctly," "Use capitalization correctly," etc., although they had been expected, as early as grade 1, to "Know and use correct capitalization, punctuation, and abbreviations." The long list of specific mechanics directives that begins in grade 7 is repeated verbatim until grade 12.

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[3] The phrase, as it relates to American curriculum, was applied by William Schmidt in *A Splintered Vision: An Investigation of U.S. Science and Math Education* (U.S. National Research Center for the Third International Math and Science Study, 1996)

A more efficient use of the grade-by-grade format might be to address the various expectations individually at appropriate grades so that teachers and students understand when they are responsible for which material. Otherwise, how will the grade 1 teacher's understanding of "Identify and apply parts of speech, i.e., nouns, verbs, pronouns, adjectives" differ from any other teacher's? These four parts of speech comprise a tall order for any grade 1 teacher, especially in addition to everything else that is described here for grade 1, but one part of speech per grade (beginning in grade 2 or 3 where it may be more developmentally appropriate) makes more sense. This kind of streamlining could be done throughout the document to make each grade count in a much more effective grade-by-grade system.

In many other cases, vague language compounds the reader's inability to discern how the mastery of content knowledge and skills is meant to progress throughout the grades, especially with so much verbatim repetition. What is the real difference between the grade 5 writing standard, "Develop an idea into a complete piece with a distinct beginning, middle and end," and the grade 12 writing standard, "Develop a controlling idea that conveys a perspective on the subject"?

The absence of some essential language arts/reading content diminishes rigor.

Quality and Complexity of Text. Primarily because of vague language, it is impossible to infer from these standards to what extent, if any, students will be exposed either to the range of literature that constitutes our common American literary heritage or to a survey of the world's best literature throughout history. Without attempting to illustrate the quality or complexity of the reading, moreover, it is never clear whether students may meet the standards by reading *Cliff Notes*, or by reading actual literary works. California, Massachusetts, and the New Standards all have referenced some kind of suggested reading list in an attempt to illustrate quality and complexity of reading material for teachers and students.

Analysis of Literary and Informational Texts. In addition, literary and informational texts seem to be jumbled together in the document, failing to outline for teachers and students the very different kinds of reading strategies needed to analyze each.

Writing Genres. While the standards do due diligence to the various types of genres in the writing sections, they fail to convey what length and quality of writing should be expected at various grade levels, in part because of the repetition problem and vague language described above. The standards focus on process over product. If students are asked, grade after grade, to "write from personal experiences," or "write functional documents," or "prepare appropriate products," without illustrating what is meant by that at the various levels, teachers and students may not progress. No lengths are specified. In California standards (appendix D, table D-4), by contrast, each genre is delineated and little is repeated from one grade level to the next.

Research. Neither the formulation of open-ended research questions nor a systematic approach to proper identification, evaluation, use and citation of primary and secondary resources is addressed thoroughly. Although there are some directives, such as "Document sources of information" (grade 7) or "Document sources of information using a style sheet format such as MLA or APA" (beginning in grade 9), the majority of standards are vague and do not proceed in a coherent way across the grades. Sometimes they are as terse, vague, immeasurable, and non-academic as "Practice thinking and problem-solving strategies." Other times they are more wordy and overblown, though still vague, immeasurable, and possibly non-academic, such as "Use communication and group process skills to collaborate, process ideas, evaluate work and develop quality products with others." With products of such processes not specifically defined, these standards focus too much on input over output.

Early reading. Finally, early reading is the area of these standards about which DoDEA should be reasonably concerned. Research codified first by the National Research Council, and most recently by the National Reading Panel, suggests very clearly what expectations we must delineate in order to be sure that our children are reading on grade level by the end of grade 3.[4] The DoDEA standards fail to address systematically, or in any detail, those aspects that research confirms will assure fluency in reading. For comparisons see the grade 3 standards for North Carolina, Texas, and DoDEA[5] in appendix D, table D-5. It would be possible for DoDEA to be more specific about the broader goals it has delineated, much as Texas has, within its grade-by-grade format. Without specifying an explicit progression of skills, the DoDEA standards are essentially the same for grades 1 through 3.

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[4] See *Preventing Reading Difficulties in Young Children*, National Research Council (National Academy Press, Washington, D.C. 1998) and the National Institute of Child Health and Human Development's National Reading Panel Report at http://www.nichd.nih.gov/publications/nrppubskey.cfm>.

[5] Achieve, Inc., convened a panel of diverse ELA and early reading specialists in June 1999. Texas and North Carolina were identified as two states that have developed strong early reading standards.

The inclusion of standards that cannot be assessed and/or standards for skills described in the abstract result in standards devoid of academic content.

Many standards seem to address pedagogical techniques, ways of learning, and general "feel-good" habits and attitudes of learning that are immeasurable and not necessarily academic. It is difficult to distinguish a hierarchy, if there is one, among standards that describe actual academic content and the things that are arguably described as the desirable effects of becoming educated. "Access human resources through telecommunications," for example, may mean that a student could email a grandfather to request a primary source account of the Vietnam War. As written, however, it could easily mean that a student should call a friend on the phone for a chat. In general, verbs such as "recognize," "participate in," "choose reading," and "respond to" and standards such as "respect turn-taking" and "see themselves as readers" may all indicate desirable behaviors. But setting standards is not about how teachers may best convey the content and skills; it is about defining the content, as clearly as possible, and holding teachers accountable for delivering the content.

4. Mathematics

Vaguely worded content makes rigor elusive.

If the language of standards is not specific, rigor is impossible to determine. A rigorous but fair curriculum may result, or a terribly lax curriculum may just as easily be developed. For example, when the standards state: "Describe patterns and mathematical problems in a variety of ways," or even "Use calculators to explore patterns," far too much latitude for an individual teacher's interpretation is allowed. As a result students may miss important content that is overlooked by a teacher who interprets the standards to mean "someone else in another year will cover that." Just as likely is the possibility that some students will have to learn the same material year after year because interpretations of vague standards are similar from one year to the next, resulting once again in the "mile-wide, inch-deep phenomenon." This is an especially critical consideration in the DoDEA system, where there are such high student mobility rates.

When the DoDEA standards are compared in terms of clarity and specificity with the highly praised standards outlined for other states and Japan, they emerge much less specific, and therefore less rigorous, as well as being less transparent for teachers, students, and parents.[6] For example, see D, table D-6, which compares grade 3 DoDEA computation standards with those for grade 3 in Japan.

The DoDEA standards state a fairly clear and specific expectation for addition and subtraction, but the rest are open to interpretation. However, the Japan standards clearly expect students to be fluent not only in addition and subtraction by grade 3, but also with multiplication (2- to 3-digit) and division (1-digit divisors) on their own; that is, without the use of a calculator. What is meant by the DoDEA statement, "Use math manipulatives to illustrate multiplication and division concepts." Does this mean students must learn how to multiply and divide or not? Can parents be sure, even as late as fifth grade, that students have had to learn the multiplication tables? Only in grade 5 do the DoDEA standards come close to the topic where it states, "Develop alternate algorithms multiplication and for fractional numbers" (sic). The Japanese standards, while very specific and rigorous, do not overlook the aspects of problem solving and mathematical reasoning inherent in the content outlined at each grade.

The DoDEA standards explicitly encourage—almost expect—students to have access to, and use, calculators as early as pre-kindergarten. This is a policy that increases the potential for students to move through school without having to learn how to perform essential operations on their own. Indeed, teachers may infer that correct answers are optimal given such standards as "Use and explore a variety of mental computation and estimation strategies and techniques, and recognize the appropriateness by the reasonableness of results," followed by "Use calculators in computational situations."

Repetition of content makes points of competency impossible to determine.

In general, this is a greater problem in language arts/reading than it is in mathematics. A progression of mastery from grade to grade is better in the math standards than those for language arts, although the broadly-worded statements still make it difficult to infer genuine differences in some content, especially in the domains where abstract skills are cited but are devoid of content. For example, in appendix D, table D-7, consider the grade 6, 7, and 8 sequence of standards in "Mathematics as Problem Solving," apparently designed to address similar content.

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[6] In addition to performing well on the Third International Math and Science Study, Japan is praised for the quality of its standards in both the Thomas B. Fordham Foundation's "The State of State Standards" (<http:www.edexcellence.net>) and the American Federation of Teachers' "Making Standards Matter" (<www.aft.org>).

In the other more "content-heavy" domains, such as geometry, the approach is better. For example, students in grade 7 are asked to "Construct concrete proofs of the Pythagorean theorem" and in grade 8 are asked to "Use the Pythagorean theorem to determine the unknown side in right triangles."

Erratic progression of some content sends mixed signals about competency.

This does not emerge as an issue for the mathematics standards.

The absence of some essential content diminishes rigor.

Some content is arguably introduced later in DoDEA than it is in benchmark documents, which may diminish the rigor of the standards in the upper grades. For example, some of the content described in "Algebra With Geometry, Course I" could easily have been addressed within the algebra domain in earlier grades, especially if students' facility with multiple operations is addressed earlier than it is currently in the standards. As seen in appendix D, table D-8, some of the Course I content, presumably to be taught in grade 9, 10, or even 11, is addressed as early as grades 7 and 8 in benchmark documents from Arizona and Japan. The expectations in Japan for all students, who must take the grade 8 course, are far more rigorous than those that are outlined for high school mathematics in the DoDEA sequence. While not so rigorous as Japan, the Arizona grade 8 standards do expect students in grade 8 to solve linear equations.

Most of the essential content of algebra and geometry is included in the sum total of the courses outlined. The question is, which courses are required of all students by the time they leave high school? What material is contained in the various grade levels of the Terra Nova test, if that is a benchmark? These questions must be answered before determining if essential content is included for study by all students at appropriate grade levels. It would also be necessary to know if students are ever held responsible for solving quadratic equations without a graphing calculator.

The inclusion of standards that cannot be assessed, and/or standards for skills described in the abstract, result in standards devoid of academic content.

Many standards seem to address pedagogical techniques, ways of learning, and general "feel-good" habits and attitudes of learning that are immeasurable, and not necessarily academic. It is difficult to distinguish a hierarchy, if there is one, among standards that describe actual academic content and the things that are arguably described as the desirable effects of becoming educated. As noted earlier, the inherent aspects of mathematics such as conceptual understanding, problem solving, and reasoning could be easily integrated into the content of mathematics standards, as the Japanese standards illustrate. Doing so would help streamline the document in ways that would make the standards focus on essentials, and therefore make the content more manageable. In an effort perhaps to emphasize these important aspects, the writers appear to have left students unaccountable for the mathematical knowledge to which these skills must apply. Describing skills in the abstract leaves curriculum developers, textbook publishers, and assessment writers without a clear road map of expectations.

For example, where is the math content in a standard that says, "Share predictions and conjectures with small and large groups" or in "Function effectively as a contributor during group activities"? These standards may indicate desirable behaviors, ones that teachers should of course encourage. Still, setting standards is not about how teachers may best convey the content and skills it is about defining the content, as clearly as possible, so that parents, students, teachers, and the rest of the community understand the expectations.

5. Science

In addition to the domains of inquiry—physical science; life science; and earth and space science—the standards maintain expectations in the following two areas: "Science in Personal and Social Perspectives" and "History and Nature of Science." Perhaps too much additional emphasis has been placed on these areas, which could have easily been streamlined and integrated into other domains. Their addition may "overstuff" the document in unproductive ways, diluting a teacher's focus from other important science content. Because science, especially in early elementary school, is often given short shrift in school schedules, it is especially important that science standards be "lean and mean." As is the case is language arts/reading and mathematics, the science standards don't take full advantage of the potential created by the grade-by-grade, organized-by-content-domain format.

Vaguely worded content makes rigor elusive.

The language of the science standards is more specific than that of the language arts and mathematics standards. It is not nearly so broad brushed as the social studies standards. In general, they are the most specific, but they remain vulnerable to problems caused by immeasurable verbs such as "Investigate..." and "Explore..." The standards are based primarily on the National Science Education Standards, which emphasize, appropriately perhaps, hands-on inquiry in the practice of the scientific method. That can present a challenge for standards writers, however, who want to write assessable content expectations for students. It seems as if success here has been erratic. Some standards have overcome the problem; some have not. For example, in grade 2, in Physical Science, one standard states: "Investigate magnetic attraction and repulsion with regard to magnets' poles." This is perhaps the description of a classroom activity, but not of a standard. What is the concept/content that the student should have mastered by performing this activity? Afterwards, a slightly better standard is described: "Investigate and record the temperatures of different objects and places in the environment." Perhaps an ideal standard would also have suggested the concept (the effect of light on temperature?) that the student should have learned.

As in other content areas, these standards contain some very broadly worded expectations such as "explore possible solutions in small groups or whole class," again suggesting instructional strategies, not standards. In some places there is more than one standard that could be streamlined to make the document more efficient by leaving the vague, unassessable aspects alone, but retaining the necessary content. Under Physical Science in grade 7, for example, students must "Conduct investigations to compare chemical properties (examples: acidity, basicity, reactivity)," which seems to repeat unnecessarily the inquiry skills that have been previously listed. Many of the standards beginning with "Investigate..." may be streamlined in this way.

Repetition of content makes points of competency impossible to determine.

A better attempt has been made to demonstrate a progression of mastery from grade to grade here, as in the life science standards that address structure and function. In grade 6, for example, students "Compare the cellular, tissue, organ, and system organizations of animal and plants." Then in grade 7 they "Describe cell structures and their functions," and in grade 8 they "Explain the organizational levels of living systems..." and "Explain how the structure and function of one organizational level supports the next level."

There are still some cases where broadly worded statements appear nearly verbatim across grades, especially in the early grades. This is also true throughout the document in the domains where abstract skills are cited but are devoid of content, as in some of the Science and Technology," "Science in Personal and Social Perspectives," and History and the Nature of Science" domains. For example, both at grade 7 and grade 8, students must "Design and construct a solution to an identified problem." In grade nine the expectation is only slightly different, without effecting a substantive change in content, where it states, "Design and construct a new solution to an identified problem...."

Erratic progression of some content sends mixed signals about competency.

This does not emerge as an issue for the science standards.

The absence of some essential content diminishes rigor.

Most of the essential content of physics, biology, and chemistry could be inferred in the sum total of the courses outlined for high school, although weak verbs and broadly brushed standards make it difficult in some cases, as discussed above. The question is, which courses are required of all students by the time they leave high school? What material is contained in the various grade levels for the Terra Nova test, if that is a benchmark? These questions must be answered before determining if essential content is included for study by all students.

Some standards make demands that could reduce valuable instructional time in order to discuss sweeping topics such as "Determine how science and technology are related" or "Determine that new technologies often result from a combination of creativity, imagination and scientific knowledge."

The inclusion of standards that cannot be assessed, and/or standards for skills described in the abstract, results in standards devoid of academic content.

Many standards seem to address pedagogical techniques, ways of learning, and general "feel-good" habits and attitudes of learning that are immeasurable, and not necessarily academic. It is difficult to distinguish a hierarchy, if there is one, among standards that describe actual academic content and the things that are arguably described in the abstract, which leaves curriculum developers, textbook publishers, and assessment writers without a clear road map of expectations. For example, as discussed above, there are many standards that address social or personal, subjective aspects of science that unnecessarily "overstuff" the document with grandiose and immeasurable expectations, such as," "Evaluate the balance between personal responsibility and consequences." This is less of a problem in the upper level standards, where specific science content is more efficiently integrated.

6. Social Studies

The strengths of the DoDEA social studies standards were difficult to identify. The organization of content appears promising at the outset. Standards within the domains of history, civics, and geography are outlined for study at each of the grade levels 4 through 12, and there appears to be an appropriate introduction to social studies in grades K–3. When surveying the actual standards, however, it is difficult to find much real content within the extraordinarily lengthy lists of broadly defined expectations about very generalized social studies concepts. The 10 "themes," each of which lists between 13 and 40 expectations, are confusing and may have precipitated the long lists of standards.

Vaguely worded content makes rigor elusive.

Almost in every domain at every grade level, the standards are replete with vaguely worded statements. Examples taken from different grades include: "Explain the changing concept of freedom in history," "Compare and contrast types of social groupings," "Explain cause and effect," "Participate effectively in decision making activities, "Summarize how societies share and learn from each other in a global setting," "Analyze political interaction among nations," and "Formulate a life plan in harmony with abilities, interests, and beliefs." Even where the standards attempt to be specific, they are sweeping in a way that makes them impossible to measure, such as "Report the position of science and religion in various cultures during the period of 1750–1914 A.D."

Repetition of content makes points of competency impossible to determine.

This does not emerge as an issue for the social studies standards. However, the "Early Childhood" standards, for pre-K through grade 2, are listed as one set of standards, making points of mastery difficult to determine, and making it difficult for teachers to know who is responsible for delivering which content.

Erratic progression of some content sends mixed signals about competency.

This does not emerge as an issue for the social studies standards, as it does for language arts/reading.

The absence of some essential content diminishes rigor.

As discussed above, this is the fatal flaw of the social studies standards, in combination with the extensive use of non-academic, overblown, and unrealistic standards, many of which border on being intrusive, such as "Share personal views of atheism and the place of religion in the modern world."

There is little mention of people from history, the biographies of which help make the events come alive for students. Essential documents, especially with regard to the founding of the United States, are treated summarily. Not a single person is mentioned by name. No holidays or their significance are mentioned by name. It is not until grade 5 that there is mention of important U.S. documents, but then it is only in the introductory paragraph. "Describe important U.S. documents and their impact" is the only statement under "Time Continuity and Change" that comes close. "Identify civil rights guaranteed by amendments to the Constitution of the United States" is treated on the same level as "List the qualifications for school and class officers." There is no mention of the substance of the Constitution, except perhaps by implication, where it is stated, "Explain the duties of Congress, the President and the Supreme Court" and "Define legislative, executive, and judicial functions on the national level." None of the events that led up to the creation of the documents, including the American Revolution, is mentioned. The Declaration of Independence is not mentioned, even in the introduction. It is worth noting that several states have enacted legislation that mandates the inclusion of essential U.S. documents for study in K–12 schools.

An exception to the absence of essential content might be the economics domain, but it is too heavily detailed and complex in comparison with history and civics. Despite its thoroughness, however, the economics domain represents, especially in the early grades, an unreasonable demand on the capacity of any teacher or student at the elementary level. The economics sections could easily be pared to allow more room for essential content in other domains. Is it necessary at grade 2 that students "describe how economic systems are made up of a wide range of groups such as families, workers, banks, labor unions, government agencies, small businesses, and large corporations"? This is one of 32 standards for "Production, Distribution and Consumption."

Another exception to the absence of essential content may be the geography domain, which is also very detailed, and for the most part, intellectually appropriate at grade levels. However, the "Space and Place" domain becomes equally overblown and unrealistic by the time it reaches high school. Making tough choices about what is essential within this domain and integrating that content throughout the document would make more sense to both teachers and students.

The inclusion of standards that cannot be assessed, and/or standards for skills described in the abstract, result in standards devoid of academic content.

Many standards seem to address pedagogical techniques, ways of learning, general "feel-good" habits and attitudes, and spurious, tendentious theories of sociology and pop psychology that are immeasurable, and not academic. They deflect valuable instructional time away from the important content of history and civics.

There are 36 standards listed for "Power, Authority and Governance"; 19 for "Individual Development and Identity;" and 19 for "Individuals, Groups and Institutions." Among these are standards that ask students to "understand the reasons for rules and laws in a society" and "Describe the concept of a student government," and even "Know that one's feelings towards others are responses to particular behaviors." These and other sections could be easily eliminated or pared down considerably to make room for real content. It is difficult to distinguish a hierarchy, if there is one, among standards that describe actual academic content and the things that are described in the abstract.

As discussed above, there are many standards that address social, personal, or subjective propositions unnecessarily expanding the document with grandiose, immeasurable, and content-empty expectations. Almost the entire domain on "Individual Development and Identity" could be deleted without much impact. With all that is listed for students to master, must they really "Define psychology as it relates to self concept"? What does it mean, especially in grade 5, to "Show sensitivities regarding attitudes, values and behaviors of people in various historical contexts"?

Some important historical analysis skills and conceptual understanding are addressed in "Culture" and "Individuals, Groups and Institutions," but it would be better to identify the very few and integrate them within the context of essential history and civics. The "Citizenship" domain is overblown with statements such as, "Express an opinion about an issue" rather than concentrating on the few good things like, "Identify the roles of formal and informal political participants in influencing and shaping public policy." This is more like the civics future citizens need.

7. Other Course Standards and Revisions

DS Manual 2001.1, Learning and Course Description Standards Guides, Grades 7–12, December 1994, contains information on approximately 450 courses, to include those courses listed in the *DoDEA-DoDDS Curriculum Standards Manual*. Each course listing is one page or less in length and provides major concepts/content, major instructional activities, major evaluative techniques and essential objectives. The concepts/content and objectives provide a sense of what the student will learn and should be able to do upon completion of the course. The instructional activities and evaluative techniques are fairly general in detail but provide some useful information about how the course will be taught and evaluated. The information is intended as an aid for teachers and administrators when planning and monitoring instruction and in describing the instructional program to students, parents, and other persons unfamiliar with the DoDDS curriculum.

The *DoDEA-DoDDS Curriculum Standards Manual* states that DoDEA has contracted with the National Center of Education and the Economy (NCEE) to review and revise the current mathematics and language arts/reading standards and assist DoDEA in judging the quality of the standards. This review has not occurred; however, DoDEA is using the New Standards Performance Standards as a model for revising standards for each content area.[7] The revision will also include the addition of performance standards and samples of student work.

In 1978 DoDDS established a process and structure for a 5-year curriculum review cycle.[8] In 1987 they established the processes and procedures for 7-year curriculum review cycle.[9] DoDEA now has a 6-year Curriculum Development and Assessment Adoption Cycle" (appendix D, table 9). The ongoing revisions will be done in accordance with this schedule. DoDEA headquarters personnel report that very minor revisions to the mathematics standards were made in 1999. Some headings were changed, and performance standards were added. Social studies revisions are underway; language arts/reading standards are scheduled for revision in 2001; and science standards are scheduled for revision in 2002. The cycle is methodical, reasonable, and manageable.

4. Conclusions

Rigorous content standards should drive all aspects of education within the DoDEA system, e.g., textbook and materials adoption, teacher professional development and performance evaluations, etc. That, along with quality teachers, will ensure that students in DoDEA schools have a demanding, consistent level of education, but it all starts with the standards. It is possible that DoDEA content standards would compare favorably with those of many states, but they did not compare well with those that have been determined to be among the best in the country. As written, the DoDEA content standards, both in the *DoDEA-DoDDS Curriculum Standards Manual* and the *Parent's Guide, Grade _ Curriculum*, do not lend themselves easily to an assurance for parents that teachers are teaching, and students are mastering, rigorous content knowledge and skills. Revising content standards during the 6-year review cycle will be essential. The areas needing improvement are significant and must be addressed. DoDEA should not wait to revise the content standards until they have also developed performance standards. In the meantime, teachers will continue to do their best to provide the most appropriate instruction, based on interpretation of the content standards, guidance from DoDEA Education Division and district curriculum coordinators, collaboration with fellow teachers, and their own professional experience and knowledge. The development of quality content and performance standards will help standardize instruction across DoDEA and assist teachers in providing consistent, quality instruction.

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[7] *New Standards Performance Standards*, The National Center on Education and the Economy and the University of Pittsburgh, 1997

[8] DS Regulation 2000.5, DoDDS Curriculum Development Process, June 14, 1978.

[9] DS Manual 2000.5, Educational Program Development Plan, September 30, 1987.

5. Recommendations

DoDEA, along with an outside team of standards and content area experts, should review and revise its content standards to ensure that the standards are rigorous and comparable to the best state and international standards.

DoDEA should conduct an alignment analysis between the content standards and current standardized tests to ensure that what is in the standards is in fact what students are being held accountable for knowing.

B. ADVANCED PLACEMENT COURSES

1. Issue

Is the availability of Advanced Placement (AP) courses adequate to meet student needs and is the AP course enrollment policy too liberal?

2. Summary of Interviews

Parents would like their children to have more access to AP courses, especially in the smaller schools where offerings are limited. Some schools have a policy that they will not offer or teach a course unless there are at least 10 students enrolled. One high school was teaching an AP Calculus course with six students. In one high school one student was enrolled in AP French and was taking it in a combined class where the teacher was teaching two levels of regular French. Parents were glad that the course could be offered but were concerned about the quality of instruction with a teacher trying to cover multiple levels of instruction in the same class period.

Some students questioned the qualifications of some teachers teaching the AP courses. They thought teachers were good at a lower level course, but were not sure they were doing a good job teaching at the advanced level. Even when an AP course is offered, scheduling can be a problem, because there may only be one section taught and it conflicts with another course the student may need for graduation. The educators stated they are trying to provide more AP courses through distance learning (DL), but this can be difficult because a DL teacher and a local teacher facilitator are needed for maximum effectiveness.

Some parents of students enrolled in AP courses are concerned about the open admission policy in DoDEA that permits any student to enroll in an AP course. They think that enrollment should be based on grades in similar courses and teacher recommendations. Some think that if there are students enrolled in the AP course that lack the necessary capability to succeed, the teacher may "dumb down" the course for the slower students. Poor performing students hinder the learning of children who should be in the AP course. If the teacher has to ensure that slower students are learning the material, all of the material may not be adequately covered during the school year; therefore, students will not be as well prepared for, or do as well on, the AP test. The teachers and administrators stated that although there is an open admission policy the students and parents are counseled prior to enrollment. They discuss the difficulty of the course and whether they think the student is capable of performing to the level required for success. If the teacher thinks the student is not capable of taking an AP course, he/she should encourage the student not to enroll.

Some students and teachers stated that some students take an AP course for the wrong reason. Some students take an AP course because it is weighted more than a regular course and it will improve their overall grade point average. Some have no intention of taking the end-of-year test because they know it will not be considered during the college admission process, but the fact that they are taking the course is noted on the transcript. The educators stated that teachers did not lower the standards in an AP course to accommodate all students, but parents believe that teachers don't want to fail a large percentage of students who should not be in the class. Educators indicated that AP courses have prescribed standards that are to be followed, and student performance is measured against that standard. Some students enroll in an AP course and drop it after a couple of weeks because it is too difficult. The AP test offered at the end of the year is not mandatory, and if the student takes it, the parents pay for the test. The schools and districts track the test results.

3. Analysis

The Advanced Placement Program is administered by the College Board and consists of 32 college level courses in 18 disciplines. DoDEA students were enrolled in 29 courses in 16 disciplines.

DoDEA has an open enrollment policy that allows any eligible student to take an AP course. Although teachers and counselors discuss AP enrollment considerations with students, and often with parents, the final decision on enrollment is between the student and the parents. The College Board does not take a position on open enrollment versus selective admittance. In their booklet *A Secondary School Guide to the Advanced Placement Program,* they present factors for consideration and basic school approaches.

> The factors given greatest weight in admitting students to AP courses are grades, teacher recommendations and parent/student requests. Some schools admit virtually every student who applies for an AP course. If the students cannot keep up with the work they may receive additional assistance, and if that does not help, they transfer to a less demanding course. The advantages of open enrollment are clear in terms of giving every motivated student an opportunity to try a very demanding course, and in satisfying student and parental requests for access to AP courses. The possible downside of such a policy is the scheduling problem if many students have to be transferred. Other schools are very restrictive in admitting students to AP courses. They set high prerequisites in terms of courses taken and grades received and may, as a result, have higher AP grades but fewer AP courses and students.

The College Board and NCES have no information on which system individual schools or school districts use most often.

DoDEA AP course enrollment and AP test results were analyzed using detailed student, school, and course data for SY 98–99 provided by the DoDEA Education Division. Students take AP courses in May, so test result data for SY 99–00 was not available.

Students in grades 9 through 12 can take AP courses, although the vast majority of those enrolled are in grade 11 or 12. A breakout of AP student enrollment by grade level was not available. In the DoDEA Accountability Profiles each school reports the number of students enrolled in AP courses and provides a percentage of those enrolled compared to the total number of 11th and 12th grade students in the school. Table IV-2 summarizes students enrolled in AP courses during SY 98-99. A detailed analysis is provided in appendix D, table D-10.

Table IV-2. DoDEA AP Course Enrollment Summary

	11th-12th Grade Students	Students in AP courses	% Enrollment
DoDDS	6,071	1,980	33%
DDESS	1,240	226	18%
DoDEA	7,311	2,206	30%

Many students who take AP courses take more than one course (Table IV-3).

Table IV-3. Multiple Course Enrollments for DoDDS Students (SY 98–99)

DoDDS	Total	1 course	2 courses	3 courses	4 courses	5 courses
Students enrolled	1980	1220	518	176	63	6

Detailed enrollment data was not available for DDESS students

In SY 98–99 there were 58 DoDEA schools with high school students. Every school except Bahrain ES/HS and W.T. Sampson ES/HS (Cuba) had students enrolled in AP courses, either offered at the school or via distance learning. There are seven AP courses offered through distance learning: AP Calculus AB, AP Calculus BC, AP Computer Science A, AP Computer Science AB, AP German, AP US History and AP Physics B. The school with the largest number of 11th and 12th grade students, Ramstein HS (Germany), had 148 of 380 students (39%) enrolled in 10 different AP courses. The school with the smallest number of 11th and 12th grade students, Livorno Unit School (Italy), had 5 of 11 students (45%) enrolled in two different AP courses. Two schools, Ernest King ES/HS (Japan) and Izmir ES/HS (Turkey), had students enrolled in only one AP course each. Heidelberg HS had students enrolled in 15 AP courses. A review of data provided by DoDEA indicates that smaller schools have fewer students enrolled in fewer AP courses, although some larger schools also had students enrolled in only a few courses.

Based on a review of number of students enrolled in AP courses in the DoDDS schools, there does not appear to be a minimum class size policy. There were 128 instances of schools that had AP courses with 5 or fewer students enrolled, and 45 instances with 6 to 10 students enrolled. In those instances where 5 or fewer students were enrolled, 41 (32%) were taking the AP course through distance learning. There were 18 instances of schools that had AP courses with 30+ students enrolled. Sixteen of those instances were AP American History, AP English Language and Composition, or AP English Literature and Composition. Seoul HS taught AP Statistics with 50 students enrolled and AP Chemistry with 34 students enrolled.

Based on the number of students taking AP courses and the number of AP courses in which each student was enrolled, the maximum number of AP tests that could be taken in DoDDS was 3,066. Data on the number of courses each DDESS student taking an AP course was enrolled in was not available. DoDDS students took 1,905 AP tests in May 1999, 62% of the total possible. Data was not available to determine how many of the 2,211 DoDEA students taking AP courses took one or more AP tests.

The most current data from the College Board that could be used as a basis of comparison was for the May 1997 tests. The number of AP exams taken in the United States per 1,000 12th graders was 131. The number of AP exams taken by DoDEA students per 1,000 12th graders was 657. The national rate probably increased between 1997 and 1999 because of the increased interest by students in taking AP courses, but the rates in preceding years were not much less (1996 - 131, 1995 - 125, and 1994 - 115), so the number probably has not gone up significantly. Based on the large difference between the national rate (131) and the DoDEA rate (657), it is inferred that a larger percentage of DoDEA students take AP tests than do students nationally. Test cost is another way to infer that most students took at least one exam. The cost to take an AP test is $76. Enrollment, test opportunity, and costs for DoDDS student enrolled in AP courses are in table IV-4. There were 1,980 DoDDS students enrolled in AP courses who took 1,905 exams. The cost of multiple tests, paid by students or parents, is high. If 1,905 different students took a test, that would be a 96% participation rate. If all students who could take two or more tests took two, and the remainder of the 1,905 tests were taken by some of the students who enrolled in one course, the participation rate would be 58%.

Table IV-4. DoDDS AP Course Enrollment, Test Opportunity, and Costs

# AP courses taken	1	2	3	4	5	Total
# Students enrolled	1,219	516	176	63	6	1,980
Exam opportunity	1,219	1,032	528	252	30	3,061
Max test cost per student if all tests are taken	$76	$152	$278	$304	$380	

There is no data available about policies in different schools and districts nationally about who pays for exams, i.e., the student/parent or the school/district. In low-income areas, students may not take exams because of cost, unless there is a cost share with the school, or the school/district pays for the test. Fee reductions of $22 per exam are available from the College Board for students with financial need. In SY 98–99 the Fairfax County, VA, School Board required that students taking AP courses also take the AP tests effective May 1999. The school also began paying for the tests.[10] They reported that the total number of students taking the AP tests increased 52%; therefore, 62% of the students took AP tests the previous year. Test results are not provided to colleges before July, after most students have been accepted. If DoDEA had a mandatory AP test policy and paid for the tests, the cost to DoDEA in SY 98–99 would have been approximately $250,000.

No College Board policy requires students to take an AP test. Students are encouraged to do so because many colleges grant course credit for doing well on AP tests since the test grades they receive represent a level of achievement equivalent to that of students who take the same course in college. The AP test is graded on a 5-point scale (table IV-5). A grade of 3 or better is regarded as an indicator of an ability to do successful work at most colleges, but each college has its own criteria for granting credit.

Table IV-5. AP Test Grading Scale

AP Grade	Qualification
5	Extremely Well Qualified
4	Well Qualified
3	Qualified
2	Possibly Qualified
1	No Recommendation

A total of 2,211 DoDEA students took AP tests in May 1999. Tests were taken in all 29 of the courses in which students were enrolled. Table IV-6 summarizes the results. A detailed analysis of the results for DoDDS, DDESS, and DoDEA, and a comparison of DoDEA and national results, are in appendix D, tables D-11 and D-12.

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[10] Fairfax County Public Schools Press Release, Number of Fairfax County Public Schools Students Taking Advanced Placement Exams Soar, September 3, 1999.

Table IV-6. DoDEA Student AP Test Results

	# Tested	Score 3–5	Score 1–2	% Scoring 3--5	% Scoring 1–2
DoDDS	1,905	1,068	837	56%	44%
DDESS	306	99	207	32%	68%
DoDEA	2,211	1,167	1,044	53%	47%
Nation				64%	36%

The percentage of DoDEA students scoring 3 to 5 was below the national average. The percentage of DDESS students scoring 3 to 5 was much lower than the percentage of DoDDS students. There is no data available that allows a comparison based on the percentage of students taking the tests and the impact it may have on lower overall average test scores. In Fairfax County, VA, 62% scored 3 to 5, a decline from 75% in the preceding 2 years, before the mandatory test policy took effect.[11]

The College Board has a Teacher's Guide for each AP course. Colleges and universities offer AP course workshops and seminars, usually lasting 3 to 5 days during the summer, for teachers to learn the rudiments of teaching an AP course as well as the latest in each course's expectations. Course tuition is usually $300 to $475, which does not include room and board or travel.[12] DoDEA recently met with University of Maryland and College Board representatives to identify trainers for each AP course. They intend to bring trainers to DoDDS school districts or provide instruction through distance learning.

4. Conclusions

AP courses are offered in all DoDEA schools. Based on the mix of courses in which students were enrolled in each school, it is assumed that it was based on the desires/needs of the students and the availability of qualified teachers. It is imperative that all students desiring to enroll in an AP course are counseled about the degree of difficulty and, if not considered qualified, be strongly encouraged not to enroll. There did not appear to be a minimum class size requirement in most schools. To meet the student needs and offer AP courses, it appears that educators were flexible in how the courses were taught, i.e., as a separate class, in combination with other levels of the same course, as an independent study course, or through distance learning. There was no way to assess the quality of instruction. Test scores indicated that DoDEA students had lower average scores than did students nationally, and that DDESS students had a much lower average score. Any number of factors could contribute to the low average scores, including how courses were taught, the number of students taking the tests, students enrolled and taking the tests who perhaps should not be taking an AP course, the quality of teacher, and/or deviation from the AP course curriculum and content standards. There is no basis to assume that the DoDEA open enrollment policy is wrong.

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[11] Ibid.

[12] College Board Online, Advance Placement Program, <www.collegeboard.org/ap/teachers/index.html>.

5. Recommendations

DoDEA should conduct a review to determine why overall average scores on AP tests are below the national average and how to improve them.

DoDEA should review and develop written guidelines for AP course eligibility criteria and enrollment procedures, and review and discuss with stakeholders the optional AP test-taking policy to determine if it should remain in effect or be changed.

C. VOCATIONAL EDUCATION

1. Issue

Does the DoDEA vocational education program provide students with the job skills needed for the 21st Century?

2. Summary of Interviews

Educators, parents, and military leaders understood that most students go to college and emphasis should be on college preparation courses. However, realizing that not all students will go to college after graduation, DoDEA should have a good vocational education program in the high schools. DoDEA does well with the pre-college curriculum, but the high schools lack adequate vocational education courses. Principals and superintendents noted that, because of increased interest by students and parents in college prep and AP courses and the increased number of credits needed for graduation, they had had to adjust teacher staffing to support these demands. This reduced the staff available to teach vocational education courses. Educators thought that DoDEA was reluctant to support vocational education courses if it impacted on college preparation courses. Some vocational education courses can be expensive because of the equipment that is required, and principals do not have funds to get the equipment. In high schools that had several vocational education courses, parents questioned if they were appropriate for what students needed to learn to join the work force. High school teachers noted that some students could not handle the college prep program and suffered without an alternative.

3. Analysis

Legislation and DoD guidance states that DoDDS will provide a program to meet the special needs of individuals with an interest in vocational education.[13] There is no specific requirement in legislation or DoD guidance for DDESS to provide a similar program. Most of the middle schools and high schools in DoDDS and DDESS offer some career or vocational education courses.

Post-secondary plans of SY 98–99 DoDEA high school graduates are in table IV-7.[14] Based on the data provided, 11% went to vocational school, got a job, or became an apprentice. If the students who were undecided also went to work, that is 17% of the graduates.

Table IV-7. Post-Secondary Plans for DoDEA HS Graduates, SY 98–99

	DDESS	DoDDS-Europe	DoDDS-Pacific	DoDEA
4-yr. College/Univ.	330	953	414	1697
2-yr. College/Univ.	68	272	159	499
Vocational School	28	33	8	69
Job	51	149	57	257
Military	57	147	80	284
Apprentice	2	10	1	13
Undecided	17	135	20	172
Total	553	1699	739	2991
Non-Graduates	19	48	21	88

DoDEA had a total of 56 career or vocational education courses that could be taken if there were enough student interest, an instructor available, and the necessary equipment, supplies and space that might be required for the course. Table IV-8 lists the six vocational areas in which courses are offered. Appendix D, table D-13, is a complete listing of all courses that are currently available.[15]

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[13] United States Code, Title 20, Section 921, Defense Dependents' Education System; and DoD Directive 1342.6, DoD Dependent Schools, October 13, 1992.

[14] "Post Secondary Plans and Financial Aid – 1999 DoDEA Graduates," DoDEA Research and Evaluation Branch, October 1999.

[15] DoDDS DS Manual 2001.1, DoDDS Learning and Course Description Standards Guide, Grades 7–12, December 1994.

Table IV-8. Courses by Vocational Areas Available in DoDEA

Vocational Area	# Courses	Grade 7-8	Grade 9-12
Career Education	2	1	2
Graphics Communications	6	3	3
Automotive Technology	13	6	7
Electricity/Electronics	14	3	11
Home Economics	12	3	9
Cosmetology	9	6	3

Source: DoDEA Education Division

Students have the opportunity to enroll in a vocational course in some but not all high schools. There is usually less demand or interest in vocational course offerings in a school where a higher percentage of students attend college after graduation. Based on a random review of course listings on school Web sites and school information booklets, the largest high schools offered 15 to 18 courses. The smallest high school offered none. Scheduling a vocational education course can be a problem because a student's options can be limited after he/she enrolls first in the mandatory courses. There appears to be a problem with student interest as a criterion for offering a course because the entire listing of 56 courses is not readily available for students or parents. School-published student and parent handbooks normally provide only the courses that are currently offered. If a course is desired that is currently not offered, it is difficult to put into place. The principal needs to adjust or increase the teacher staffing. If the course is one that requires only minimal or no special equipment or supplies and no special classroom, it would take a minimum of one semester before the course could be offered. If considerable equipment and supplies are required or a space has to be modified to accommodate the equipment, it may take a year or more before the course can be offered. If there is considerable expense for equipment, supplies, or space renovation, something else may need to be eliminated or reduced unless DoDEA could make additional funds available.

According to DoDEA officials, they are going to convene a committee to develop a proposal of what vocational education courses would be beneficial for a student who intends to get a job after graduation. The proposal will be staffed and the input used to develop a more effective vocational education program. They are exploring other initiatives, e.g., taking vocational education courses through distance learning and developing intern-type programs with military units on an installation.

4. Conclusions

The current vocational education program is not as extensive as the list of offerings would indicate. It is difficult to provide a course that is not already offered in a school. Students in most small schools do not have the opportunity to take a vocational education course, but they can participate in the Cooperative Work Experience program. Most of the 56 courses available or offered are the traditional vocational education subjects. Many could probably be eliminated, updated, or replaced by courses that provide an opportunity to develop 21st century skills needed to succeed in the workplace. DoDEA is working to develop a more appropriate vocational education program in the schools.

5. Recommendations

DoDEA should develop, fund, staff, and implement a revised vocational education program as soon as possible.

D. SPECIAL EDUCATION

1. Issue

Are the policies and procedures for parents with children with special education needs being followed?

2. Summary of Interviews

Military leaders and parents are very satisfied with the special education program operated by DoDEA. Parents who had children with special education needs stated their children usually received a better education in DoDEA schools than in other U.S. school systems. Their concern, as well as that of educators, was about the military and civilian sponsors arriving overseas with children having special education needs and without anyone knowing they were coming.

The Exceptional Family Member Program (EFMP) was established to screen and identify family members who have special health and/or educational needs. Military leaders stated this program was only applicable to military personnel and that there was no similar program for civilians. Some parents do not want to enroll their children in the EFMP because they think it may hurt their careers by limiting assignment possibilities. When the military sponsor does not enroll his/her dependent in the EFMP, no screening occurs before the sponsor is placed on orders. The educators stated that it is difficult when a sponsor with a student having special education needs is assigned to a location where required services are not available. DoDDS is required to provide the services, but it may take several weeks to get them in place. Additionally, it can be very expensive to provide those services, and it reduces funds that could have been used for something else. DDESS schools do not have these problems because if the services cannot be provided, the children can attend a school in the adjacent community that has the needed services.

3. Analysis

DoDEA policies that govern special education are contained in a DoD Instruction that is based on the Individuals with Disabilities Education Act (IDEA).[16] The DoD requires accurate screening and evaluation of school aged family members before an overseas assignment to enable the identification of sponsors who need special considerations in the choice of assignments.[17] Military sponsors of children with educational disabilities may not be adversely affected by denying them career enhancing overseas duty assignments. If consistent with the needs of the services and the career progression of the military member, sponsors of children with educational disabilities should be assigned to locations with appropriate special education services.

The selection of a government civilian employee for a position may not be based on the educational needs of his/her children.[18] Civilians who apply for an overseas position cannot be asked if they have a child with special education needs until after they are offered a job and accept it. If a civilian selected for a job has a child with special education needs and appropriate services are not available, alternate positions with equal career enhancement can be offered to the civilian.

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[16] U.S.C. Title 20, Chapter 33, Education of Individuals with Disabilities and DoD Instruction 1342.12, Provision of Early Intervention and Special Education Services for Eligible DoD Dependents in Overseas Areas, March 12, 1996.

[17] DoD 1010.13-R, Overseas Assignment of Sponsors Who Have Children with Disabilities Who Are Space Required Students in the Department of Defense Dependent Schools, March 1992.

[18] Title 5, United States Code

Even if no suitable location matching the position requirements and the child's needs can be found, the lack of special education resources is not a basis for denial of command-sponsored travel for either military or civilian personnel.[19]

The EFMP assists the military personnel systems in making assignments to locations where DoDDS and the military medical departments have pre-established programs and staff. Military members who have children with special education needs are required to enroll in the EFMP so screening and evaluation of a child who may possibly require special education can take place in CONUS. Although civilians are not included in the EFMP, the children of a civilian selected for an overseas position must also be screened. The screening and evaluation should be detailed enough to determine the personnel with the training and experience required to provide individualized instruction to students with specific educational disabilities.

The procedures are different for military and civilian personnel. The Military Personnel Office (MILPO), through the appropriate personnel command, advises DoDDS of the special education needs of the child. DoDDS identifies the services available at the location where the individual is to be sent. If the necessary services are not available, they provide a list of locations where they are available. Based on this information the assignment is finalized. The individual may be assigned to a location without the required services or a location with the services, or he may have the assignment canceled. The MILPO is not required to inform DoDDS of the final assignment decision. The Civilian Personnel Office (CPO) is required to advise the selectee what services are available in the overseas community and provide information to DoDDS about the special educational requirements of the child.

The military system allows a knowledgeable special education coordinator familiar with all educational services in each community, in coordination with the medical service provider, to make recommendations about the best location to receive the required services, based on a review of the child's Individualized Education Program (IEP). In the civilian system a personnel clerk at the CONUS CPO may have limited information about available services, but no evaluation of the IEP is possible.

Each school year, DoDDS publishes a directory that provides information on the location of pre-established special education programs and staff in each overseas military community.[20] The directory identifies four categories of communities based on the pre-established programs and staffs that are available at that location. Additionally, it identifies specific communities that have specialized services for children with more severe or low incidence disabilities. Of the 81 communities with DoDDS schools there are 21 with no pre-established program or staff. The remaining 60 communities have various levels of capability depending on the category they are in, and 8 of those can provide some or all specialized services.

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[19] Secretary of Defense Memorandum, Provision of Medically Related Services to Handicapped Dependents in Overseas Areas, September 16, 1983.

Based on data provided by DoDEA, there are about 7,500 DoDDS students with disabilities worldwide. This is approximately 10% of the DoDDS enrollment. More than 90% have mild educational disabilities and receive special education services that are supplemental to their general classroom instruction. Approximately 1,000 educational clearances are coordinated between the military and DoDDS each year. Of those screened, about 67% of the children have mild disabilities that can be handled at the location where the sponsor is slated for assignment. About 25% have requirements that can be satisfied only at certain locations/schools for which DoDDS recommends alternative assignment. About 5% would require additional special education resources even at those locations with the most special education resources. As mentioned earlier, no information is provided to DoDDS on final assignment decisions. DoDDS does not adjust any staffing, if required, until a student with special education needs actually arrives with an IEP because they do not know if or where the student will actually attend school. However, based on historical experience DoDDS is able to accommodate almost all of those children who arrive with special education needs.

The difficulty occurs when an individual arrives with a child with special education requirements at a location that does not have the ability to provide the required services. DoDDS is required to take whatever action is necessary to provide them. The military sponsor may or may not be in the EFMP, and the civilian sponsor may or may not have coordinated with the CPO to determine services available. Special education costs for each child are not tracked, but DoDEA was asked to estimate the cost of special education services provided for individuals who arrived in locations where services were required, either because none existed or the IEP did not reflect actual special need requirements. The estimated cost was $227K for SY 96–97, $196K for SY 97–98, and

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[20] DoD Directory, DoDDS and Educational and Developmental Services (EDIS), Early Intervention, Special Education and Medically Related Services in OCONUS Communities, SY 1999–2000.

$376K for SY 98–99. The costs were probably higher than the estimates because DoDEA was not able to capture all costs. The regulation states that if the Service making the assignment fails to follow the established procedures, DoDDS may request reimbursement for any extraordinary expenses involved in the delivery of the child's special education; however, DoDEA has absorbed those costs each year.

4. Conclusions

The DoD has specific guidance related to the assignment of military and civilian personnel who have children with special education needs. Although effort is made to match assignments of personnel with the availability of special education resources, it is not mandatory to assign these personnel to an overseas location that can provide the necessary services. With proper coordination and screening, DoDDS is able to provide special education service in most cases because of the resources and services it has in most communities. The EFMP is effective if military members who have children with special education needs are enrolled. The system for civilians is not effective because qualified personnel do not evaluate special education needs contained in an IEP. When personnel with children who have special education requirements arrive at locations where such services are not available, DoDDS provides the services and absorbs the cost. Moving children with special education needs to a location where the educational services are not readily available is not fair to the children, the teachers, or the school system. It may create otherwise unnecessary delays in the provision of the necessary education and an expenditure of funds that could have been used for other educational programs.

5. Recommendations

OSD and the Services should revise the applicable regulations and EFMP to include government civilians.

To assist the Services in evaluating the effectiveness of their EFMP, DoDEA should report to the Services all occurrences of sponsors arriving at locations without the required special education resources, and request reimbursement for costs associated with providing special education resources in locations where they are not already available.

DoDEA should place the annual *DoDDS Directory of Early Intervention, Special Education and Related Services* on the DoDEA Web site.

E. DISTANCE LEARNING

1. Issue

Is the DoDEA distance learning program fully exploited to expand educational services?

2. Summary of Interviews

Military leaders and parents, as well as some educators expressed the need to expand the distance learning program, especially in the smaller schools, in order to provide a greater variety of courses for the students. Those interviewed in all stakeholder groups who were familiar with the distance learning program thought that it was very good, but that the demand exceeded the capability. They also thought more AP courses should be offered.

The educators stated that students and parents needed a good understanding of distance learning courses because they were not appropriate for all students. Students and parents at some schools were frustrated when the student signed up for a distance learning course and they were told later they could not take it because of priorities and too many students had enrolled. Some facilitators at the schools where students were located were not much help to the students. Sometimes there were delays in starting the course at the beginning of the year because of computer hardware problems or late-arriving textbooks or other materials. Students did not like having to wait 1 or 2 days for a response from the teacher. Some principals and counselors do not understand or do not support the DL program, so the children in those schools may not know about the opportunities available, advantages and disadvantages of taking a DL course, and so forth.

3. Analysis

The DL program is planned, coordinated, and executed through the DoDEA Electronic School (DES) located in Mainz-Kastel Germany, and it comes under the supervision of the DoDEA Education Division. DL teachers are located there and in several schools throughout the DoDEA school system. Because of time zone changes all courses are taught asynchronously. There is no real-time interaction between the students and the instructor. Any school can be a DL site. School principals and counselors are surveyed to determine if a sufficient number of their students would take a course through

DL to justify a teacher to develop and deliver the course. It can take up to a year to develop a DL course once the decision is made.

The first DL course was delivered in 1985 to 40 students.[21] In SY 99–00 there were nine regular and seven AP academic courses and six activities offered through distance learning (table IV-9).

Table IV-9. DoDEA Distance Learning Courses & Activities SY 99–00

Regular Courses	AP Courses	Activities
C++ Programming	AP Calculus AB	English-The Writing Project
Economics	AP Calculus BC	Journalism-Daily Planet
Health	AP Computer Science A	Advance. Via Individual Determination
Humanities	AP Computer Science AB	AVID-Preparing for college
Pascal Programming	AP German	Celebrations!
Pascal Programming II	AP US History	Model U.S. Senate
Q-Basic	AP Physics	
Science Research Seminar		
Visual Basic		

The AP courses are a year long. There were 227 students enrolled in all courses at the beginning of SY 99–00. The smallest class was AP Computer Science AB with 8 students and the largest class (with two sections) was AP U.S. History with 63 students. At the end of the first semester 151 students were enrolled. Some students dropped a course before the end of the drop/add period at the start of the school year, some dropped it during the semester and some dropped it at the end of the semester. The regular courses last one semester. There were 376 students enrolled at the end of the first semester and 372 students enrolled near the end of the 2nd semester. Based on initial enrollment data that was available, approximately 77% of the students completed the regular courses. Some students dropped the course before the end of the drop/add period at the start of the semester and some dropped during the semester. Most of the drops during the semester were due to the reassignment of a student's military parent. Students from 53 of 57 schools with grades 9 to 12 had students enrolled in regular and AP DL courses during SY 99–00. Activity enrollment is usually done at class level by a teacher who uses the activity to supplement coursework in the classroom. While all of the academic courses are high school courses, the activities are used to support instruction at the elementary, middle, and high school levels, depending on the activity. There were 864 students from 22 schools participating in the activities during the 1st semester, SY 99–00, and 497 students from 32 schools participating in the activities during the 2nd semester, SY 99–00.[22]

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[21] Management Systems & Training Technology, Co, "DoDEA Distance Learning Program Evaluation," March 28, 1998.

The DES is required to meet the needs of the small schools first. The priority for course enrollment is to students in small schools and then to those in large schools by grade, i.e., seniors, juniors, etc. A small school junior has priority over a large school senior. Although some students enroll in a course for the following year, before the end of the current school year, there are many students who transfer in and enroll at the beginning of school. Because there are only a limited number of teachers who are trained, certified, and scheduled to teach courses, the enrollment in oversubscribed courses must be reduced based on the priorities established. The students in the large schools who are told they will not be able to take a course usually have other alternatives that the students in the small schools do not, but it requires them to rearrange their schedules.

In the past a DL teacher was given a maximum student enrollment of 50 students. DoDEA assumes this to be roughly the equivalent of 150 traditional classroom students because the courses are designed for discussions, group activities, and considerable dialogue between the student and instructor, all done asynchronously. To compensate for anticipated drops, beginning with the 2nd semester, SY 99–00, the DES calculated the historical dropout rate and enrolled that many more in a course, above the 50 maximum. Research continues on what an appropriate enrollment should be for DL courses. The University of Illinois issued its "Online Pedagogy Report," a study of online teaching, and concluded that class size should be about 20 students. The Learning Resources Network, a nonprofit group that promotes lifelong learning, suggested that an outstanding professor could handle a class of 1,000 students on the Internet.[23] There are many factors that must be considered in determining the number of students that can be adequately taught through distance learning, e.g., course content, method of delivery, course requirements, and how much time is required by the teacher.

The DES has developed a Virtual Professional Development Academy (VPDA) to provide PD training to DoDEA teachers through the use of DL technologies. It is designed primarily to teach educators how to develop and teach distance learning courses.[24] There are currently five courses, 6 to 10 weeks in length, offered three times a year depending on enrollment. Three of the courses are part of a proposed DoDEA Distance Learning Certification Program for educators who would like to become DL instructors. None of the professional development training that is provided from the DoDEA Professional Development and Education Equity Branch is currently offered through distance learning, but the infrastructure is in place.

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[22] This analysis was based on data derived from Lotus Notes database extracts provided by the DES, May 2000.

[23] Pamela "Study on Online Education Sees Optimism, with Caution," *New York Times* January 19, 2000.

At a school where there is a student taking a DL course, there is a facilitator to help with the mechanics of the DL course, but not necessarily the content. If there is a problem getting online or with the hardware, an administrative technologists needs to fix the problem. Being a facilitator is an additional duty for a teacher who is usually teaching another course while the student is taking the DL course, but training is necessary to ensure he/she is capable of providing help when needed. When the DL office in Mainz knows which students are enrolled in a course, they are sent any necessary material, e.g., additional books, compact disks, and tapes. DDESS students may not have the same textbook as used in DoDDS because they are still in the process of adopting the same curriculum.

Several thousand DL courses are available through other secondary school systems, universities, and commercial companies. Analyses to determine whether they may match the DoDEA content standards for the courses offered, or offer the flexibility built into the DoDEA system, were beyond the scope of this study. A decision to develop all DL courses within DoDEA may not be the most effective and efficient approach to satisfy requirements for additional courses. Utilizing other sources for ready-to-use courses and for development would decrease the time and resources it takes to offer new courses and may increase the quality of those courses.

4. Conclusions

DL courses offer educational opportunities to students who might not otherwise be able to take a course due to the unavailability of a course or local instructor at the school, or a scheduling conflict. DL has become more than merely an alternative way of delivering instruction and should be considered as a fundamental component of the DoDEA curriculum. The time needed to develop a DL course requires an early assessment of what courses should be developed for future offering to students. There should be a review process, based on DoDEA criteria, to determine if any of the external sources for DL courses may be appropriate. This could reduce the time and development costs associated with developing a new course. DoDEA resources could focus on the development of training programs for DoDEA teachers on how to provide DL instruction. If DoDEA wants to expand the DL program, it will need more teachers trained in how to develop and teach DL courses. A flexible staffing plan and policy would permit the DL program to expand and adjust to meet student needs. This expansion would allow more students to enroll in the same course or allow a larger variety of courses to be offered. VPDA offers tremendous potential to offer PD training at reduced cost and time spent by teachers away from students.

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[24] Distance Learning Programs in DoDEA, The Virtual Professional Development Academy (VPDA), <www.dlc.odedodea.edu>.

If students are counseled about the advantages and disadvantages of DL courses prior to enrollment, there may be fewer drops at the start of the semester. Counselors at large schools should also ensure that students understand the enrollment priorities and how this may affect them. Enrollment priorities attempt to provide the students in small schools with more of the same opportunities in course offerings as students have in large schools. If the criterion for small school size is changed from 260 to 400 students, this may reduce the number of students in large schools who can take a DL course. Assuming the DL program continues to expand, there will be an increased demand on bandwidth and on the administrative management of the program, and a need to increase funding for personnel and equipment necessary to develop courses or purchase courses from external sources.

5. Recommendations

DoDEA should explore ways that DL capabilities can be used to enrich and expand curriculum offerings throughout DoDEA with a particular emphasis on small schools.

DoDEA should staff a design and development team and increase administrative support at the DL Center to upgrade current courses, develop a full component of core curriculum courses, and review other online courses for applicability.

DoDEA should develop a formal DL certification program and encourage teachers qualified in the courses that require DL teachers to enroll.

DoDEA should use the DL network to offer some of the professional development courses and training currently offered by traditional means.

F. EXTRACURRICULAR ACTIVITIES

1. Issue

Does DoDEA offer adequate extracurricular activities, especially in the small schools?

2. Summary of Interviews

Parents and students stated that sports and extracurricular activities were an important component of education that complements academics. Military leaders and parents realize that student participation in these activities makes them better individuals and helps them in competition for college admission. They pointed out an advantage of sports in DoDDS or DDESS, because of the size of the schools, was that almost anyone who wanted to could make a team. This was not true in very large schools some had attended in the States. Most military leaders and parents thought that in DoDEA the large schools had adequate athletic teams and other extracurricular activities for students, but there was a problem with fewer choices available in the smaller schools. In some schools parents and students stated that it was difficult for some students to participate in after school activities because there was no transportation to take the students home.

Military commanders, parents, and administrators indicated that at many installations the MWR Youth Services offered a sports program for the students, and in some instances the school and youth center had established cooperative arrangements. Some schools could offer more activities if there were more teacher sponsors. Military leaders and parents indicated that in some schools parents and military personnel volunteered to coach a sport or sponsor a club because no educator would volunteer, but there had to be a DoDEA educator present. Some parents thought that more teachers should be willing to support the sports and extracurricular activities because these programs enrich the student's education. Several parents and teachers did not support the DoDEA policy that allows a student with one "F" to participate on an athletic team. Some had requested to change the policy at the local level, but no action was ever taken. The JROTC program, although not an extracurricular activity, received many favorable comments in all schools in which it was available. Those schools without a JROTC program would like to have one.

3. Analysis

DoD guidance states that "DoDDS may provide, to the extent that funds are available, extracurricular and co-curricular programs and activities to enrich the school environment and experience, and student travel to compete in interscholastic programs and competitions."[25] There is no specific requirement in DoD guidance for DDESS to provide similar programs. All of the schools in DoDDS and DDESS provide some extracurricular activities, and the high schools offer interscholastic sports.

The guidance for the DoDEA athletic program is applicable only to DoDDS.[26] There is no DoDEA guidance for DDESS schools because each school district follows the guidelines of the state in which it is located. The athletic program is designed to encourage maximum participation of all students. There are 14 interscholastic activities that may be included in the Interscholastic Athletic Program (IAP), both varsity and junior varsity. The principal determines which sports will be offered at the school. In order to have a team at a school there must be adequate student interest, equipment, playing facilities, and faculty supervision.

The IAP manual provides the DoDEA philosophy and guidance on student eligibility. It states, "While the argument for establishing a higher grade point standard for participation may be seen by some as a stimulus for higher academic performance, this position does not recognize the contribution athletic participation makes to the educational development of all students in preparing them to be quality adults....Students who receive more than one failing grade in the classes in which they are enrolled are ineligible for competition. A student with one failing grade cannot be denied the opportunity to participate in practice or competition." There is no DDESS policy because each district has policies consistent with state participation policies. For example, at Ft. Campbell, KY and Ft. Knox, KY the state policy precludes participation in an athletic event if the student has one F.

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[25] DoD Directive 1342.6, DoD Dependent Schools, October 13, 1992.

[26] DoDEA Regulation 2740.1, DoDEA Interscholastic Athletic Program, August 19, 1997, and DoDEA Manual 2740.2, DoDEA Interscholastic Athletic Program, August 19, 1997.

There is no DoDEA regulation or policy that specifically addresses extracurricular activities. A DoDDS regulation on compensation for extra-duty assignments states that performance as a coach or club/activity sponsor/advisor is considered an extra-duty activity that must be accomplished by an educator.[27] In addition to about 30 clubs or activities listed in the regulation there is a provision that allows the principal to request approval for compensation for other extra-duty assignments. An assumption is made that this permits additional clubs and activities to be organized if there is student interest, a sponsor/advisor, and compensation funds. The principal is to select qualified, suitable, and available personnel on the basis of abilities, interest, and previous experience in the specific activity. Educators are encouraged to volunteer for the available assignments, but there is no mention that the principal is limited to volunteers to fill the assignments. The labor agreements for both unions representing DoDDS teachers state that no employee will be required to accept an extracurricular activity, except when the vacancy cannot be filled with a qualified volunteer. No such stipulation exists in the labor agreement for the union that represents the DDESS teachers.[28] Even if a parent or military member volunteers to be a coach or sponsor/advisor, a DoDEA employee must be present and compensated for completing the extra-duty assignment.

The offerings of clubs and activities at a school vary generally according to school size, as is the case for the athletic teams. A random review of school Web sites and handbooks indicates that large schools usually have as many as 15 to 18 clubs or activities and small schools usually have only 2 or 3. Some schools provide activity buses, and other schools require parents to provide transportation for their children. Travel expenses for co-curricular activities are paid by the school. A co-curricular activity is an activity that meets DoDDS academic and educational objectives, e.g., Mathcounts or Model United Nations. Travel expenses for extracurricular activities must be borne by the students.[29]

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[27] DoDDS DS Regulation 5550.9, DoDDS Compensation for Extra-Duty Assignments, October 7, 1988.

[28] Negotiated Agreement Between DoDDS and Overseas Education Association, September 1989; Collective Bargaining Agreement between Overseas Federation of Teachers, AFT, AFL-CIO and DoDDS, June 1994; and Master Labor Agreement Between Federal Education Association Stateside Region (FEA-SR) and DoD DDESS, July 1999.

[29] DoDEA Manual 2005.1, *DoDDS Administrator's Guide*, January 5, 1996.

4. Conclusions

Athletic teams and extracurricular clubs and activities are or can be available in all schools when there is enough interest; enough students to field a team or participate in an activity; adequate funds to cover travel, equipment, and/or educator coach/sponsor compensation; and a DoDDS educator in charge. The transportation budgets can be quite large because of the distance some teams travel to play other teams in the same conference or to play in a championship. DDESS does not have any regulations that govern their policies or procedures. Each DDESS school district follows applicable state policies. The DoDEA policy of eligibility related to student grades and participation on athletic teams applies to all DoDDS schools, but not DDESS schools. There appears to be nothing that precludes parents from restricting their own children from participating on an athletic team if the grades are not satisfactory in their opinion.

5. Recommendations

DoDEA should establish a formal written program and policies for extracurricular activities.

DoDEA should review the policy on eligibility related to student grades and participation on athletic teams with input from stakeholder representatives.

G. TRANSITION

1. Issue

Does DoDEA facilitate the transition to and from other school systems and between DoDDS and DDESS?

2. Summary of Interviews

Military families move many times during the career of the military member. They understand and accept the need to do that, but it does not mitigate the anxiety and difficulties encountered. Likewise, in the case of overseas assignments, families would rather have an accompanied rather than an unaccompanied tour. The children must make the social transition required in leaving comfortable surroundings and friends and move to a new home in a strange place, make new friends, adjust to a new culture, etc. Additionally there is the problem in transitioning between school systems. Since there are no national standards related to such things as curriculum, grading scales, and other school-specific issues, these problems can be very frustrating, and occasionally lead to serious consequences such as delayed graduations.

Parents stressed the importance of teachers understanding that this transition is difficult so they can help ease the anxiety and make it as smooth, quick, and efficient as possible. Teachers and school administrators are very impressed with the ability of students to rapidly adjust and adapt to their new school, curriculum, textbooks, and procedures.

According to parents, some of the most common problems encountered during transition included:

- Different class schedules – a traditional schedule with classes meeting every day, and a block schedule with classes that meet for extended periods every other day and last a year, or meet for extended periods and meet every day and last a semester
- Differences in high school graduation requirements
- Similar courses but widely differing curriculum, or use of different textbooks
- Portability of courses – not getting credit for a course in the new school
- Different grading scales and weighting of courses to compute grade point averages
- Inability to get college letters of recommendation if not in school one year
- Inability to get state financial aid, even when they are state residents, because they did not attend school in the state

Parents stated that some of these issues had been encountered when transferring to other schools as well as to DoDEA schools. They did not understand when some of these problems occurred within the DoDEA school system, as opposed to between DoDEA and other school systems. Parents and educators noted that transition problems are also compounded when they occur during the school year rather than during the summer break. Moving in the summer may begin to be more difficult as more school systems switch to year round schedules.

Parents indicated that when they were notified about a move, they tried to get information about the new school. Many reported contacting the school, requesting that their sponsor provide them information about the schools, or searching the Internet for the school Web sites. Parents estimated that about 50% of all parents try to get current and accurate information, and 50% do not make that effort. They settle for asking someone who may have been at that location, even if it was several years earlier, and listening to rumors and anecdotes. Military leaders, primarily in Europe, were concerned about reports that military members, especially senior officers, were turning down assignments because of their concerns related to the quality of education in DoDDS.

Many military leaders and parents thought that most of the teachers and principals tried hard to smooth the transition and accommodate the students as much as possible, but noted that many of the problems listed earlier were out of their control. The parents stated that it was critical for the child to get a very positive first impression and reception at the school from the teachers, counselors, and principal. They indicated this happened at many of the schools and did much to relieve the apprehension and concerns of the children.

3. Analysis

The mobility rate of students in the DoDEA school system exceeds 35% per year (table IV-10). The mobility rate is calculated by dividing the sum of the students who enroll and withdraw during the period September 30 to May 15 by the school enrollment on September 30.

Table IV-10. DoDEA Student Mobility Rates (SY 98–99)

DoDDS District/Area	Mobility (%)	DDESS District/Area	Mobility (%)
Brussels	35.8	Antilles CSS	20.1
Heidelberg	33.6	Camp Lejeune	31.1
Hessen	44.0	Dahlgren	37.0
Italy	34.1	Fort Benning	47.8
Kaiserslautern	38.1	Fort Bragg	37.4
Turkey	40.2	Fort Campbell	42.3
United Kingdom	35.8	Fort Jackson	33.6
Wuerzburg	41.9	Fort Knox	44.7
Europe Area	**38.3**	Fort McClellan	29.0
		Fort Rucker	36.6
Japan	44.9	Fort Stewart	47.1
Korea	38.1	Guam	42.3
Okinawa	31.9	Laurel Bay	38.5
Pacific Area	**39.4**	Maxwell AFB	21.4
		Quantico	29.8
Cuba	33.0	Robins AFB	33.5
America(Cuba)	**33.0**	West Point	17.8
DoDDS	**38.4**	**DDESS**	**36.3**

Source: DoDEA Education Division

This turmoil is difficult not only for the parents and students, but also for the schools that must plan schedules and have the right number and types of teachers, textbooks, supplies, etc., for the next school year. Most military families receive orders and attempt to move during the summer, and most sponsors do move then. It is assumed that the high mobility rate during the school year is due to the inability of many military families to get concurrent travel during the summer due to non-availability of housing.

Four different grading scales are used by high schools in DoDEA (table IV-11). All DoDDS high schools and three DDESS districts with high schools use the same scale. In the remaining four DDESS districts with high schools there are three different scales.

Table IV-11. DoDEA HS Grading Scales

	A	B	C	D	F
DoDDS	90-100	80-89	70-79	60-69	0-59
DDESS					
Guam	90-100	80-89	70-79	60-69	0-59
Puerto Rico	90-100	80-89	70-79	60-69	0-59
Ft. Knox	90-100	80-89	70-79	60-69	0-59
Ft. Campbell	93-100	84-92	73-83	65-72	0-64
Lejeune	93-100	85-92	77-84	70-76	0-69
Ft. Bragg	93-100	85-92	77-84	70-76	0-69
Quantico	94-100	87-93	76-86	70-75	0-69

Four different grade point equivalent scales are used by high schools in DoDEA for Honors and Advanced Placement (AP) courses (table IV-12). All DoDDS high schools and four DDESS districts with high schools use the same grade point equivalents. In the remaining three DDESS districts with high schools there are three different grade point equivalents used.

Table IV-12. DoDEA Grade Point Equivalents

Schools	Course	A	B	C	D	F
DoDDS Guam Ft. Campbell Ft. Bragg Quantico	Normal	4	3	2	1	0
	Honors/AP	5	4	3	2	0
Lejeune	Normal	4	3	2	1	0
	Honors/AP	5	4	3	1	0
Ft. Knox	Normal	4	3	2	1	0
	Honors	5	4	3	2	0
	AP	6	5	4	3	0
Puerto Rico	Normal	4	3	2	1	0
	Honors	4.5	3.5	2.5	1.5	0
	AP	5	4	3	2	0

In 1983, the National Commission on Excellence in Education (NCEE), created by the Secretary of Education in 1981, issued its report on the quality of education in America. One of its recommendations was that a high school curriculum should include 4 years of English, 3 years of mathematics, 3 years of science, 3 years of social studies, and one-half year of computer science. It also recommended 2 years of a foreign language for college-bound students.[30] In 1993–94 the NCES conducted a schools and staffing survey that included an assessment of the number of school districts that had graduation requirements at or above the NCEE recommendations (Table IV-13).[31] There is no more current data available for comparison.

Table IV-13. Percentage of Districts Meeting or Exceeding NCEE Recommendations

	English	Math	Science	Core Subjects
Public Schools	85.2	44.8	25.2	19.8
Private Schools	98.9	74.8	49.0	44.8

Data for social studies was included in the core subjects, which was a consolidation of all four subject areas.

The DDESS high schools, except Guam HS, each have different graduation requirements than DoDDS. All DoDDS high schools have the same graduation requirements. Table IV-14 shows the various DoDEA HS graduation requirements. The variations occur in total units of credit required for graduation, total number of required and elective courses, and specific required courses within each subject area. Additionally, DoDDS high schools have a non-credit service learning requirement that requires service to the school or community. It consists of a minimum of 20 hours of service learning per year for students in grades 9–12, for the year(s) they are enrolled in a DoDDS high school.

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[30] The National Commission on Excellence in Education, A Nation at Risk: The Imperative for Education Reform, April 1983.

[31] U.S. Department of Education, NCES, 1993–1994 Schools and Staffing Survey, NCES 96-312.

Table IV-14. High School Graduation Requirements

School	Required Courses								Electives	Total
	English	Math	Science	Social Studies	Computer Sci/Tech	Foreign Language	Other	Total		
NCEE Recommendation	4	3	3	3	0.5	2*				
DoDDS (to SY 00-01)	4	2**	2**	3	0.5		3.5	16	6	22
DoDDS (SY 01-02+)	4	3	3	3	1	2	5.5	19.5	4.5	24
Ft. Campbell (to SY 00-01)	4	3	2	2	2		3.5	16.5	6.5	23
Ft. Campbell (SY 01-02+)	4	3	3	3	2		3.5	18.5	6.5	25
Ft. Knox (to SY 00-01)	4	3	2	2.5			1	12.5	7.5	20
Ft. Knox (SY 01-02+)	4	3	3	3			2	15	7	22
Camp Lejeune	4	3	3	3			2	15	6	21
Quantico	4	2**	2**	3			3	15	6	21
Puerto Rico	4	3	3	3	1	2	4	20	6	26
Fairfax County (to SY00-01)	4	2	3	3		1***	3	16	5	21
Fairfax County (SY 01-02+)	4	3	3	4			3	17	5	22

Guam HS follows DoDDS requirements

* Recommended for college bound students

** Must take an additional math or science course

*** Foreign Language or Social Studies

DoDDS has policies that alleviate some of the difficulties that transferring students encounter, especially during their senior year:

1. DoDDS will accept the official grades and courses of students who transfer from accredited public and/or private schools. Courses interrupted by transfer may be continued to completion. The principal may exercise judgment in scheduling students into such courses, taking into account any loss of time so that the transfer does not impact negatively on the student's chances for successful completion.
2. Students enrolling in DoDDS during their senior year may graduate by meeting the requirements of their previous school if, through no fault of their own, they cannot meet DoDDS graduation requirements.
3. Students who begin their senior year enrolled in DoDDS and who return to the United States, may be awarded a DoDDS diploma by meeting DoDDS requirements if, through no fault of their own, they cannot meet the requirements of the receiving school.

The anecdotes about senior officers turning down assignments because of their concern about the quality of education in the DoDEA schools was discussed with the Chief, Colonel's Division, US Army Personnel Command; and the Chief, Assignments, Air Force Colonel's Group, Pentagon. Neither one was aware of any assignment refusal based on concerns about the quality of education in DoDEA schools. There were usually multiple reasons for turning down an assignment. The primary ones were not wanting to leave their current location because they enjoyed the job, they had a nice home, they were near a mandatory retirement date, their wife had a job/career, and their child was in the last year of high school and/or was a star athlete with scholarship potential.

Last year the Army contracted with the Military Child Education Coalition (MCEC) to conduct a study on military children transition issues. The purpose is to determine how school systems and military installations accommodate and respond to the educational needs of transitioning high school aged military children. They will collect data on issues similar to those discussed by the stakeholder groups. The data is being gathered from 10 large Army installations that include three sites with DoDEA Schools – Baumholder, Germany; Seoul, Korea; and Ft. Campbell, KY. The completed study will be published in December 2000 and disseminated to all schools serving U.S. Army installations.

4. Conclusions

The parents and students are most concerned with transition issues, but the other stakeholder groups also want to see transition occur as smoothly as possible because of impacts on quality of life and school operations. Understanding the impact on a student of constant moves to different schools, DoDEA tries to make adjustments to mitigate and control difficulties encountered during transition whenever possible. The largest impact is for students at the high school level, and to some extent at the middle school level. Within DoDEA there are variations in grading scales, grade point equivalent scales, and HS graduation requirements. With the high mobility rate for students in DoDEA, it should strive to be the best in the United States at finding solutions to these challenges and, more importantly, knowing how to motivate and challenge students in this environment. Finding solutions to transition issues is very complex because there are so many school systems involved. A close relationship between DoDEA and MCES could be beneficial because of the work that MCEC does in trying to solve transition issues in LEAs where military students attend schools.

5. Recommendations

DoDEA should develop a standardized form about transitioning to or from another school system and request that parents complete and return it in order to identify transition issues and alleviate as many as possible.

DoDEA should work with the MCEC and coordinate with the Council of Chief State School Officers to identify and standardize processes and procedures that could alleviate transition issues.

V. TEACHERS AND ADMINISTRATORS

A. TEACHER QUALITY

1. Issue

Does DoDEA have highly qualified teachers who can provide the best possible education to the children of military personnel?

2. Summary of Interviews

The consensus of all stakeholder groups was that there were many excellent and caring teachers who instilled a desire to learn in their students. However, there were also some teachers who should not be in the teaching profession. The military leaders and parents were concerned about the quality of the teachers, but defining quality was elusive. Those interviewed in DoDDS-Europe stated that during the drawdown many of the younger teachers had left, leaving an older group of teachers. Some of those teachers appeared to be too old and burned out, lacking the enthusiasm necessary for teaching. Other military leaders and parents, along with most students and educators, stated it was wrong to associate age with quality. Many teachers get better over time, as they gain experience and confidence and learn which teaching techniques work effectively and which do not. Some teachers were considered to lack knowledge of current teaching strategies and effective teaching techniques. All stakeholder groups could enumerate a list of attributes that an outstanding teacher should possess, but agreed an assessment of teacher quality based on these attributes, especially at an aggregate level, would be very difficult. Table II-1 summarizes the attributes that students used to describe their best teachers, and thus, in their opinion, what constitutes an outstanding teacher. The list is consistent with attributes provided by all stakeholder groups.

Table V-1. Outstanding Teachers As Described by Students

- Teachers are professional and supportive and take responsibility to ensure students learn.
- Teachers focus on the individual needs of the students.
- Teachers motivate student to learn and do their best.
- Teachers make courses challenging, interesting, and fun.
- Teachers use student-centered, hands-on, interactive teaching rather than reading and lecturing to students. They do not teach solely from the textbook.
- Teachers are willing to try new techniques and are not stuck in old ways of teaching.
- Teachers effectively incorporate technology into their teaching.
- Teachers realize they need to teach differently with the 90-minute block period, and make the necessary adjustment.
- Teachers do what it takes to help students and make time for students, even after class.
- Teachers are willing to listen.
- Teachers help students with problems they have and with homework.
- Teachers maintain discipline in class and emphasize good citizenship.
- Teachers give papers and tests back in a timely manner.
- Teachers do not give busy work to students to keep them occupied.
- Teacher enthusiasm for teaching is not a function of age or length of time teaching.

3. Analysis

a. Quality of Undergraduate Schools Attended by DoDEA Teachers

The quality of DoDEA teachers was compared with the quality of the teachers in public and private schools in the United States. Based on the assumption that brighter individuals make better teachers, the comparison focused on the intellectual quality of the teachers. The research literature lends support to the proposition that instructors with stronger intellectual capabilities and academic backgrounds are, other things being equal, more effective teachers. From Ballou and Podgursky, the following research findings are extracted.[1]

Hanushek in 1971 investigated the relationship between the achievement of California third graders and the characteristics of their second and third grade teachers, including experience, hours of graduate education, and scores on a test of verbal ability. Of all teacher characteristics, scores on the test of verbal ability were the most important determinant of student learning.[2]

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[1] Dale Ballou and Michael Podgursky, *Teacher Pay and Teacher Quality* (Kalamazoo, Michigan: W.E. Upjohn Institute, 1997), p. 9.

[2] Eric Hanushek, "Teacher Characteristics and Gains in Student Achievement: Estimation Using Micro Data," *American Economic Review*, Volume 61, Number 2, 1971, pp. 280–288.

Winkler in 1975 found a positive association between test score gains and the "prestigiousness" of the teacher's undergraduate college. Prestigious institutions included Stanford and the University of California system; nonprestigious schools were represented primarily by the California state college system.[3]

Summers and Wolfe in 1977 found that student test score gains between third and sixth grade varied positively with the quality of their teacher's undergraduate college.[4]

Webster in 1988 found a significant positive correlation between teachers' scores on the Wesman Personnel Classification test (a test of verbal and quantitative ability) and the scores of middle school students on the Iowa Test of Basic Skills and of secondary school students on the Iowa Tests of Educational Development.[5]

Ehrenberg and Brewer in 1994 found a positive association between student test score gains from tenth to twelfth grades and the selectivity of the colleges attended by teachers at their school.[6]

Monk in 1994 found a strong positive association between the subject matter preparation (college course work) of high school mathematics and science teachers and their students' achievement test scores.[7]

The fact that researchers employing a variety of data sets and test instruments have found a positive association between teacher's tested ability and student learning attests to the robustness of this relationship.[8]

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[3] Donald R. Winkler, "Educational Achievement and School Peer Group Composition," *Journal of Human Resources*, Volume 10, Spring 1975, pp. 189–204.

[4] Anita A. Summers and Barbara L. Wolfe, "Do Schools Make a Difference?," *American Economic Review*, Volume 67, Number 4, 1977, pp. 639–652.

[5] William J. Webster, "Selecting Effective Teachers," *Journal of Educational Research*, Volume 91, Number 4, 1988, pp. 245–253.

[6] Ronald G. Ehrenberg and Dominic J. Brewer, "Do School and Teacher Characteristics Matter? Evidence from High School and Beyond," *Economics of Education Review*, Volume 13, Number 1, 1993, pp. 1–17.

[7] David H. Monk, "Subject Area Preparation of Secondary Mathematics and Science Teachers and Student Achievement," *Economics of Education Review*, Volume 13, Number 2, 1994, pp. 125–145.

[8] Ballou and Podgursky, op. cit., p. 11.

1. Selectivity of the Undergraduate Schools That Teachers Attended

The quality of the undergraduate schools of public and private school was estimated by Ballou and Podgursky[9] from data on institutions awarding undergraduate degrees to teachers, taken from the national schools and staffing survey of 1987–1988.[10] The schools were classified according to the *Barron's* profiles of American colleges for 1991.[11]

The *Barron's* rankings are based on the scores of matriculating students on the SAT or ACT, their high school standing and the percentage of applicants admitted. The category of Ballou and Podgursky's designated as "selective" corresponds to *Barron's* highest two ratings—"most competitive" and "highly competitive." The category "above average" corresponds to *Barron's* "very competitive." The category "average" corresponds to *Barron's* "competitive." The category "below average" corresponds to the rest of the *Barron's* categories. Ballou and Podgursky obtained the results shown in table V-2 for public and private school teachers in the United States.

A sample was taken from a database of 8,565 teachers in DoDEA. After teacher's records were sorted by social security number, every 70th record was extracted, yielding a sample of 122 teacher's records. The undergraduate colleges for these teachers were obtained from the computerized database or from the personnel files of the teachers. The schools were classified according to *Barron's Profiles of American Colleges 2000.*[12] The results obtained for DoDEA teachers are also in table V-2. Table V-3 is a cumulative comparison.

Table V-2. Comparison of Teachers in Each School Classification Category

(percent)

	Public	Private	DoDEA
Selective	6.5	10.7	9.8
Above Average	14.8	13.1	16.4
Average	49.0	44.5	47.5
Below Average	25.3	18.1	19.7
Unrated College	3.7	12.7	6.6
No Bachelor's Degree	0.7	0.9	0.0

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[9] Ibid., p. 131.

[10] Susan P. Choy et al., *Schools and Staffing the United States: A Statistical Profile*, 1987–1988. National Center for Educational Statistics, 1992.

[11] *Barron's Profiles of American Colleges 1991*, Barron's Educational Services.

[12] *Barron's Profiles of American Colleges 2000*, Barron's Educational Services, 1998.

Table V-3. Cumulative Comparison of Teachers in Each School Classification Category (percent)

	Public	Private	DoDEA
Selective	6.5	10.7	9.8
Above Average or Better	21.3	23.8	26.2
Average or Better	70.3	68.3	73.7
Below Average or Better	95.6	86.4	93.4
Unrated College or Better	99.3	99.1	100.0
No Bachelor's Degree or Better	100.0	100.0	100.0

On average, DoDEA teachers attended higher-quality undergraduate schools and are thus presumably better qualified intellectually compared with public school teachers. Their qualifications are also better than those of private school teachers in two of the measures—above average or better and average or better—though again these findings might be affected by the unrated colleges.

2. SAT and ACT Scores of Undergraduate Schools Attended by DoDEA Teachers

Appendix E, table E-1, presents SAT and ACT data for the undergraduate schools of the 122 observations on DoDEA teachers. These data were obtained from the College Board Handbook for 2000.[13] ACT data were converted to SAT data using a table from the College Board.[14] The table also presents the competitiveness ratings used in the previous section.

For the SAT, data were extracted for the 25th and 75th percentile of the verbal and mathematics scores of the matriculating freshmen. They were converted to an average total score. For the ACT, data were extracted for the 25th and 75th percentile for the composite score. They were converted to an average SAT score.

For the SAT alone there were 85 observations for which the average score was 1,087. For the ACT alone there were 22 observations for which the average score was 1,005. For the SAT and ACT there were 107 observations for which the average score was 1,070. If it is assumed that the missing seven observations have a low score of 900, the combined score of the 122 observations is 1,046.

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[13] *College Handbook 2000*, The College Board, 1999.

[14] *Admission Staff Handbook for the SAT Program 1999-2000*, The College Board, 1999.

The average score of students who took the SAT in 1999 was 1,017. The participation rate was 43 percent. The average score of all 4-year institutions is not known. Since many do not require the SAT, it is not unreasonable to assume that it would be well below 1,000. Thus the average score of institutions from which DoDEA teachers graduated, which is presumably between 1,046 and 1,070, is far higher than the average score of all 4-year institutions.

However, the average score of institutions from which all public school teachers have graduated is not known. One surrogate might be the scores of the historically teachers colleges in Pennsylvania. Appendix E, table E-2, contains data[15] on the SAT scores of the colleges presently designated by titles including the suffix "University of Pennsylvania," such as Indiana University of Pennsylvania. (Its previous name was Indiana State Teacher's College.) The average SAT score is 999.

SAT scores of students by intended college major are relatively low for those intending to be teachers. The fall 1996 SAT scores of high school seniors nationwide by intended college major are shown in table V-4.[16]

Table V-4. SAT Scores of Student by Intended Major

Major	Average SAT Score
Education	964
Business	982
Biological Science	1091
Language and Literature	1150
Physical Science	1170
Mathematics	1178

The average SAT scores of the colleges attended by the sample of DoDEA teachers are well above the SAT scores of all 4-year institutions, of all students taking the SAT, of the historically teachers colleges in Pennsylvania, and of the intended education majors nationwide.

b. Education Level of DoDEA Teachers

Teachers continue their education throughout their teaching career, either because of their own desire to increase their knowledge and/or because of the requirement to be recertified every 6 years. Regardless of the reason, the knowledge gained through additional education should enhance the knowledge imparted to the students. Based on a sample survey of public school teachers in the United States in SY 95–96, conducted by the National Education Association, 0.3% of the teachers had less than a Bachelor's degree, 43.6% had a bachelor's degree, 54.5% had a master's degree, and 1.7% had a doctoral degree.[17]

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[15] Data are from *College Handbook 2000*, The College Board, 1999.

[16] Robert P. Strauss, "Who Gets Hired to Teach? The Case of Pennsylvania," in Marci Kanstoroom and Chester E. Finn, Jr. (Editors), *Better Teachers, Better Schools*, Thomas Fordham Foundation, 1999, p. 112.

Table V-5 provides data on the education level of DoDEA teachers as of May 2000. DoDDS has a significantly lower percentage of teachers with a bachelor's degree and a significantly higher percentage of teachers with a master's degree compared with the average public school teacher. DDESS has a significantly higher percentage of teachers with bachelor's degrees and a significantly lower percentage of teachers with a master's degrees compared to the average public school teacher. The DoDEA percentages are slightly lower for Bachelor's and slightly higher for Master's degrees than public school teachers. Table V-6 provides data on DoDDS teachers that reflect continued education beyond a bachelor's degree and master's degree. Similar data on DDESS teachers was not available in the DoDEA personnel data base.

Table V-5. DoDEA Teacher Education Level

Degree	DoDDS		DDESS		DoDEA	
BA/BS	2071	36.2%	1365	55.3%	3436	41.9%
MA/MS	3564	62.3%	1079	43.7%	4643	56.7%
PhD	90	1.6%	26	1.1%	116	1.4%
Total	5725	100.0%	2470	100.0%	8195	100.0%

Table V-6. DoDDS Teacher Education Level

Education - DoDDS Teachers		
BA/BS	1010	17.6%
BA/BS+15	391	6.8%
BA/BS+30	670	11.7%
MA/MS	1043	18.2%
MA/MS+15	674	11.8%
MA/MS+30	1847	32.3%
PhD	90	1.6%
Total	5725	100.0%

Appendix E, table E-3, indicates the percentage of teachers with advanced degrees (final degrees or certificates higher than the bachelor's degree) as recorded in the NAEP grade 4 reading and grade 8 reading test. For grade 4, data are given for 39 states, the District of Columbia, DoDDS, and DDESS. DoDDS and DDESS have among the highest percentages of teachers with advanced degrees. For grade 8, data are given for 36 states, the District of Columbia, DoDDS, and DDESS. DDESS has a much higher percentage of teachers with advanced degrees than does any state in the nation, and the percentage of teachers with advanced degrees in DoDDS is exceeded by only two states. Teacher education in DoDDS and DDESS is far greater than in the nation as a whole for those teachers included in the NAEP survey results. For the small sample, the results are significantly different when compared with the previous data on the education level of all DoDEA teachers and public school teachers in the United States.

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[17] National Education Association, "Status of the American Public School Teacher, 1995-1996," October 1997.

c. DoDEA Teaching Experience

While teaching experience does not necessarily guarantee quality, it does reflect that a teacher has probably experimented with different teaching methods and strategies, to determine what works best in the classroom for the effective interaction between the teacher and students, and has probably developed effective time management skills. The teacher becomes more comfortable and confident in the teaching environment over time. Based on teacher- and school-provided data submitted to DoDEA, an aggregate level of teaching experience was determined. The data in table V-7 reflects the years of teaching experience by year groupings. Other aggregations are not possible because data in the personnel database provides years of government service, rather than teaching experience. Since many, if not most, teachers enter DoDDS or DDESS after teaching in other school systems, the more relevant data is total years of teaching experience.

The median teaching experience of public school teachers in the United States in 1996 was 15 years and the percentage of teachers teaching for the first year was 2.1%.[18] Since schools only reported the number of teachers by years of experience range, the median years of experience for DoDEA teachers cannot be determined, but it is somewhere between 10 and 20 years. In DoDEA the percentage of teachers teaching for the first year was 6.3%. The highest percentage of new teachers was in DoDDS-Pacific, which has the highest turnover of teachers.

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[18] Ibid.

Table V-7. Total Teaching Experience of DoDEA Teachers (SY 98–99)

	New	1-2 Yrs	3-9 Yrs	10-20 Yrs	20+ Yrs	Total
DoDDS-Europe	197 5.1%	145 3.7%	448 11.6%	1195 30.8%	1889 48.8%	3874 100.0%
DoDDS-Pacific	259 13.6%	123 6.5%	329 17.3%	468 24.6%	720 37.9%	1899 100.0%
DoDDS-America (Cuba)	0 0.0%	2 4.8%	2 4.8%	4 9.5%	34 81.0%	42 100.0%
DoDDS	456 7.8%	270 4.6%	779 13.4%	1667 28.7%	2643 45.5%	5815 100.0%
DDESS	58 2.5%	118 5.0%	393 16.7%	849 36.1%	935 39.7%	2353 100.0%
DoDEA	514 6.3%	388 4.8%	1172 14.3%	2516 30.8%	3578 43.8%	8168 100.0%

Source: DoDEA Management Analysis Section

4. Conclusions

As discussed, several studies have tied achievement of students to the colleges attended by their teachers. On average, DoDEA teachers attended higher-quality undergraduate schools and are thus presumably better qualified intellectually compared with public school teachers. The average SAT score of students at institutions from which DoDEA teachers graduated is far higher than the average score of all four-year institutions. The education level of DoDEA teachers is slightly higher than public school teachers. It is significantly higher for DoDDS teachers and significantly lower for DDESS teachers. Almost 75% of the DoDEA teachers have more than 10 years of teaching experience. DoDDS teachers have more teaching experience than DDESS teachers do.

5. Recommendation

DoDEA should target top-level colleges and universities as part of its teacher recruitment effort.

B. TEACHER PROFESSIONAL DEVELOPMENT

1. Issue

Is there a comprehensive professional development (PD) program for DoDEA educators as an essential element in providing a quality education?

2. Summary of Interviews

Educators stated that DoDEA had more PD opportunities than teachers did in the U.S. even though they have been reduced from previous years. PD is expensive, especially with educators dispersed throughout the world. Most educators expressed a desire for more time for PD and collaboration with their peers. There was not enough time before the start of the school year, and time during the school day and after school was limited. Educators and parents were concerned that too much time was spent on PD during the year, requiring teachers to be away from the classroom too often.

The teachers stated that they spent a lot of time writing lesson plans for substitutes, and then had to take time when they returned to assess what the students had learned. Some substitutes were not well qualified, so students were wasting time when they should have been learning. Educators stated that the caliber of consultants hired by DoDEA to provide instruction was outstanding and they were some of the top professionals in the field of education. Most thought that more input about PD offerings should come from the local level. Decisions had become too centralized at DoDEA headquarters, but interviewees had started to see a change. Many educators mentioned the "Study of Teaching" by Jon Saphier that was taught several years ago. It was excellent and should have been continued. DoDEA intends to initiate a program called "Conditions for Powerful Learning," which is standards driven and based on student performance rather than being teacher focused.

Military leaders and parents support the extensive PD offered within DoDEA because it should improve the quality of education, but they did not know how effective it was, or if any assessments were done.

Most educators stated that DoDEA should have a formal mentoring program, not only for teachers new to the teaching profession, but also for experienced teachers who are new to DoDEA. They stated some schools had informal programs with a department head, lead teacher, or volunteer doing the mentoring if a new teacher needed or requested mentoring.

3. Analysis

DoDEA has a Professional Development and Equity Education (PDEE) Branch within the Education Division, which is responsible for coordinating professional development training and activities within DoDEA. Each school district is required to submit a professional development plan to DoDEA headquarters explaining how they will utilize their funds. The plan should be based on the CSP and the School Improvement Plan (SIP).

Terminology used within DoDEA related to professional development includes professional development, staff development, training, in-service training, directed training, directed activities, non-directed training and non-directed activities. They all result in the development and/or enhancement of the skills, knowledge, and abilities of the individual educator. The training or activity may be done over an extended period of time, or in a few hours.

Funding for PD is based on the cost equivalent of 5 school days for teachers. That is the basis for allocating funds for PD, but it does not mean that every teacher will receive 5 days of professional development. The FY 2000 DoDEA budget for professional development is $4.59M. Of that amount, $2.22M is retained at DoDEA headquarters, $0.96M is distributed directly to the DoDDS districts, and $1.4M is centrally managed by the DDESS headquarters.[19] The funding that is held at DoDEA is used for directed activities, non-directed training, and PD training conducted in the districts by DoDEA level staff developers or contractors. Volunteer/designated teachers participate in DoDEA-directed activities that aid DoDEA in the accomplishment of such tasks as curriculum reviews, textbook selection, and strategic planning meetings. They are usually conducted at DoDEA headquarters both during the school year and in the summer. Non-directed training includes summer workshops in specific academic topics held in various locations around the United States. DoDEA pays all teacher expenses related to directed activities. For non-directed training DoDEA pays for teacher room and board, the instructor or facilitator, and the use of facilities. It does not pay for teacher travel to and from the training. Examples of DoDEA-provided local professional development training include training for teachers in one district on how to effectively use block scheduling, and for principals in another district on how to more effectively evaluate teachers.

PD training and activities occur during the school year and in the summer, at the school or elsewhere in the district, at DoDEA headquarters, or in some location in the U.S. or overseas. The DoDEA SY 2000-2001 calendar has 182 instructional days and eight additional days for educators. Four days at the beginning of the year are for orientation and classroom preparation. Four additional days are scheduled at the end of each quarter as teacher workdays. This is time for teachers to conduct parent-teacher conferences and prepare report cards, but not for professional development. Many of the training activities occur during the school year because instructors, instructional systems specialists, and consultants are more available; teachers who received summer training can share what they learned with their peers; and the training may apply only to a certain group of teachers. Some PD training is scheduled for times when students are released from classes early. Some schools have created time by adjusting the school day, e.g., releasing students early 1 day a week, or shortening the school day 15 minutes each day, and creating a 75-minute period of time for PD training. These types of plans reduce the length of the instructional day and require considerable coordination with the parents, transportation, and unions. To accomplish most PD training requires that it be done when school is in session. PD training occurs during the school day because of labor agreements with the unions that stipulate the duty day for teachers. For DoDDS teachers the workday begins 20 minutes before and ends 30 minutes after the instructional day. For DDESS teachers the workday is 7 ½ hours.

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[19] DoDEA FY 2000 Budget Book, June 2000.

To conduct PD training during the school day requires a substitute teacher to be hired for the teachers involved in the training. Substitute teachers are required to be at least a high school graduate, although DoDEA tries to hire substitutes with a college degree and a teaching certificate. Principals report that the quality of substitute teachers, based on academic credentials, has declined because of the increased number of military spouses who are hired as full-time teachers. Another consideration for conducting PD training during the school day—rather than after school, on weekends, or by extending the school year for teachers—is that it costs less to pay a substitute teacher than it does to pay a regular teacher. According to DoDEA the average daily cost for a substitute teacher is $79 and a regular teacher is $258 (DoDDS) or $278 (DDESS). To add an extra day for teacher PD at the start or end of the SY would cost approximately $2.4M.

To be recertified for DoDDS, teachers must complete six undergraduate or graduate semester hours in 6 years. Three must be in their field of teaching and three can be in any educational area. Recertification for DDESS teachers is based on requirements of the state in which the schools are located. Professors from various colleges or universities provide some of the PD training offered by DoDEA. The instruction may be presented in the district during the school year, or somewhere in the U.S. during the summer. It is offered free as an incentive for teachers to attend. If the educators want to receive credit towards recertification, they pay for the course and do additional coursework. DDESS teachers have the opportunity to take education courses at the local colleges and universities and participate in the professional development opportunities offered in the adjacent counties.

Some training is presented at a central location that may require two or more days of travel in addition to attending the training. To minimize the number of teachers taken from the classroom for long periods, DoDEA uses a "train-the-trainer" approach whenever possible. For example, they may bring one teacher from each school in for training on how to implement a new curriculum or a new teaching strategy. That teacher is expected to return to the school and train the other teachers. Teachers who attend summer workshops are also expected to return to the school and share with the other teachers what they learned. Usually the teacher who receives the initial training is a volunteer and familiar with the subject area. There is little consideration given to that person's ability to instruct peers. The "trainers" receive no instruction on how to be effective because it is assumed they can do the job. Teachers reported that a teacher who is good at teaching children is not necessarily successful in teaching peers. They also stated that when these teachers return, instruction is not always provided, either because they cannot find the time to conduct the training or because they are not required to do so by the principal. Teachers who receive training from the trainer feel they are not receiving the best instruction possible.

Distance learning is being used increasingly by large corporations to provide training to employees. The DoDEA PDEE branch is exploring the possibility of offering some PD via distance learning. The DES has the capability to provide PD through its Virtual Professional Development Academy. There is a considerable amount of professional development material and training available through the Internet that is offered by state school systems and educational institutions. The difficulty is determining what offerings meet the needs of DoDEA and are of high quality.

There is no formal mentoring program for teachers new to the teaching profession or to DoDEA. DoDEA has a 5-day training program for mentors that is offered to the districts. It is used mostly in the Pacific and some in Europe, and but it is not used in DDESS. Some districts and schools have developed their own informal mentoring programs. Despite training and preparation, the first year for a new teacher is difficult, and he/she can benefit by receiving assistance from an experienced educator. Those new to DoDEA face a different challenge in learning about new curriculums, expectations, and procedures. Teachers new to DoDDS also face the challenge of adjusting to life in a foreign country and in a military environment. A study by *Education Week* indicates that 28 states mandate a mentoring program for new teachers, and 19 of those provide funds to support the program. The new teacher is assigned a mentor teacher, or in six states a mentor support team. The duration of most programs is 1 year, though some are 2 or 3 years. Each of the states has a formal plan or provides guidance on what assistance the mentor teacher should provide, and 12 of them provide monetary compensation to the mentor.[20]

4. Conclusions

Determination of professional development needs starts with the educators at the school level. Their requirements should be prioritized and based on what will increase student learning as determined by a needs assessment and a review of the school improvement plan. These requirements should be coordinated through the districts and areas, submitted to DoDEA and incorporated with requirements identified by the Education Division. DoDEA, in concert with the chain of command and the unions, should determine the most efficient and effective way to meet the requirements.

All teachers continue their professional development and education to keep current on the best teaching techniques and improve their teaching ability, remain current in their subject area(s), and maintain certification. Professional development should occur continually throughout the year at appropriate times, depending on the needs of the educators, the topic, availability of presenters, availability of courses, etc. DoDEA should develop an acceptable and viable way of providing time for teachers to collaborate, plan together, and work in study groups to find better ways for students to learn and for faculties to make their school a better place to learn and work. Hiring substitute teachers so regular teachers may receive PD training may be appropriate if it only impacts on a few teachers. More use should be made of distance learning to provide professional development opportunities. This will reduce travel time and costs, broaden the audience, and ensure consistency of presentations. Student-teacher contact time affects student performance, so every effort should be made to reduce the time that teachers are taken out of the classroom.

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[20] "Education Week Survey of States, Quality Counts 2000," *Education Week*, January 13, 2000.

The informal train-the-trainer program and new teacher mentoring program are not as effective as they could be. Those teachers selected to train other teachers must be capable of peer teaching or should receive instruction on how to be an effective trainer. Appropriate time must be made available at the school for them to train their peers. A formal DoDEA mentoring program would assist all first year teachers in the classroom, and may result in fewer separations at the end of their term of service.

5. Recommendations

DoDEA should form a task force to assess the effectiveness of current PD activities, review research literature on professional development, and formulate a comprehensive PD plan that includes individual and systemwide components.

OSD should provide funding to support increased educator professional development that will enhance the quality of education.

DoDEA should develop and implement an effective train-the-trainer program for teachers and a formal mentoring program for teachers new to DoDEA.

C. TEACHER PERFORMANCE EVALUATION

1. Issue

Is the performance appraisal system too cumbersome and time-consuming when it comes to removing an unsatisfactory teacher? Is DoDEA's proposed new teacher performance appraisal system an improvement over the existing system?

2. Summary of Interviews

There was consensus that a large majority of the teachers were above average to outstanding. Stakeholders estimated that 2% or less of DoDEA teachers should not be in the teaching profession. School boards and parents were frustrated when they knew there was a poor performing teacher in the school, complaints had been made to the principal, and they could not find what, if anything, was being done to correct the situation. Military leaders and parents were dismayed when told by principals about how difficult it was to remove a poor-performing teacher. Educators stated that it usually took about a year to remove a teacher who was not performing well. However, administrators stated that their first priority is to help a poor-performing teacher improve. If that failed some adverse action should be taken. Many of those interviewed stated that principals were reluctant or unwilling to make the necessary effort to document poor performance. Sometimes teachers were transferred on the assumption that they would do better and improve in a new environment. Some of those interviewed in each stakeholder group thought that the teacher unions were part of the problem, and that they defended poor-performing teachers. Others stated that the union was not defending them, but cited a teacher's right to due process and assurance that administrators are complying with stated procedures. Many thought that teachers should help police their own ranks. Some teachers reported that the union faculty representative spokesperson (FRS) and other teachers did put pressure on the poor-performing teacher to improve or encourage them to leave the profession.

The performance evaluation program was also discussed. There were differences of opinion about the current procedures and how effective they were, as well as concern about the new procedures that DoDEA planned to implement. Some teachers expressed concern that, depending on the principal's background, he/she may not be capable of evaluating all teachers fairly. For example, early childhood teachers may use different teaching methods than those used by other teachers, and a principal who was a former middle school teacher may not be knowledgeable enough to evaluate a physics teacher. Some educators thought the proposed "pass-fail" system would be better and others preferred the current DoDDS system with five categories. Concerns focused on how well a teacher is motivated to perform well under each system. Those who preferred the current system did not want all teachers to be lumped together, and preferred an acknowledgement that there were degrees of quality. The different categories provide an incentive to do well and allow recognition for outstanding performance. They mentioned that superior performance is recognized with monetary incentive awards and award certificates. Those who preferred the new system thought that the principal was not capable of truly discerning levels of competency and that current performance ratings are based on favoritism.

3. Analysis

The purpose of the performance appraisal system is to improve performance.[21] The appraisal system used by DoDEA is only applicable to DoDDS personnel. Each DDESS district has its own appraisal system that follows procedures of the state in which it is located. The FEA-SR Labor Agreement has a section that addresses a DDESS performance appraisal system although there is no such system at present. The section outlines a process and procedures that are similar to the DoDDS system. The DoDDS appraisal system provides for the "identification of critical and non-critical elements, establishment of performance standards, communication of elements and standards to employees, establishment of methods and procedures to appraise performance against established standards, and appropriate use of appraisal information in making personnel decisions."[22]

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[21] DS Regulation 5430.9,DoDDS Performance Management System, dated December 5, 1988.

The regulation requires the processes and procedures in the performance appraisal system to consider the provisions of any applicable negotiated union agreement. The three major union labor agreements have generally the same content related to the process and procedures that are followed in executing the performance appraisal system as outlined in the regulation. Any adverse rating or decision to reassign or remove a teacher for unacceptable performance is subject to grievance and arbitration procedures. The grievance and arbitration procedures do not apply to teachers who are separated or terminated during their probationary period. New teachers in DoDEA are on probation for 2 years in DoDDS and 1 year in DDESS. If they fail to demonstrate adequate teaching skills they are counseled and given assistance, but there is no requirement to put them on a formal performance improvement plan.[23] Although a DoDDS teacher is on probation for 2 years, he/she can be terminated at the end of the first year.

The regular appraisal period is 1 year, which for teachers is May 1 to April 30. The minimum appraisal period is 120 days. When unacceptable performance on a critical element is identified, the teacher must be informed in writing of the specific shortcomings, what must be done to improve to an acceptable standard, and what assistance will be provided. The principal does not have to be an expert in all subjects taught, or have experience at all levels of teaching to be capable of evaluating teachers. There are differences in teaching strategies and techniques that may be necessitated by the class level or subject being taught, the style and personality of the teacher, or the students in the class. A good principal will be aware of and understand this. A primary objective of the post-observation counseling should be to clarify any of these types of concerns or misunderstandings. The impetus is on the principal to know each teacher, and to evaluate every teacher fairly and objectively. The regulation states the individual teacher must be given reasonable opportunity to demonstrate acceptable performance, but does not specify a time limit. The labor agreements state that the time period must be a minimum of 30 days. At the end of the time period the teacher must be informed if he/she met the standard or if the performance is still unacceptable, and if unacceptable, the action that will be taken. The current performance management system states that if a teacher's performance is still unacceptable, the teacher must be reassigned or removed. Reassignment is considered appropriate if it is determined that there may a better opportunity to correct the noted deficiency or if it provides a better match of position requirements and employee capabilities. If this alternative is selected there is no requirement for the teacher to remain in an improvement program until he/she shows improvement to an acceptable standard in the new location.

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[22] Ibid.

[23] Ibid.

If the stakeholders' 2% estimate of teachers who should not be teaching is about right, that equates to 164 of 8,195 teachers, or less than one per school. The regulation requires an annual report that includes statistics of appeals filed, grievances filed, number of each rating given, number of awards, etc. Based on an analysis of school district performance appraisal data for DoDDS classroom teachers for 3 years, only 12 DoDDS teachers received a rating of minimally acceptable or unacceptable. Annually, 93.8% of the teachers received an exceptional or commendable rating (table V-8). There is no way to determine if these ratings reflect the true quality of the teachers or the inflation of ratings that exists in many performance appraisal systems. According to DoDEA data, DoDDS teachers filed 36 grievances in SY 97–98 and 20 grievances in SY 98–99. Other data were not available for review.

Table V-8. Teacher Performance Appraisal Rating Distribution

Rating	SY 96–97	SY 97–98	SY 98–99	Annual average
Exceptional	2,571	2,807	3,112	65.0%
Commendable	1,064	1,206	1,508	28.8%
Fully Successful	223	262	350	6.3%
Minimally Acceptable	1	1	2	0.0%
Unacceptable	2	2	4	0.1%
Total	3,873	4,299	4,917	

Source: DoDEA Personnel Center Database

DoDEA developed a new teacher performance appraisal program in 1998 to replace the existing system.[24] It will apply only to DoDDS teachers. It has not been implemented yet because of ongoing negotiation with the unions. The new system is significantly different from the current system. The current system requires three to five critical elements, as well as noncritical elements to be developed in coordination between the teacher and principal. The performance elements and standards can be the same for several teachers if the duties, responsibilities, and work environments are similar. However, they are often different from school to school or between districts. The new program specifies a systemwide set of detailed Professional Performance Elements that are applicable to all DoDDS teachers. There is no guidance or distinction in appraising probationary teachers in the current system, except that they cannot grieve the evaluation. The new program has one level for provisional teachers (those new to DoDDS). They will be provisional teachers for 2 years and have formal observations and feedback during that time. Those teachers with more than 2 years with DoDDS will be placed in the professional level. The professional level consist of 3-year cycles that include requirements for a teacher to have a professional growth plan, formal observations, and an annual rating that documents performance and growth. Another distinction is in the rating system for each of the performance elements and the annual performance evaluation (table V-9).

Table V-9. Comparison of Performance Appraisal Rating Systems

Performance Management System		Teacher Performance Appraisal Program	
Evaluation of Critical and Non-Critical Elements	Exceed Satisfy Not Satisfy	Evaluation of Professional Performance Elements	Meets Does Not Meet
Annual Summary Rating	Exceptional Commendable Fully Successful Minimally Successful Unacceptable	Annual Rating	Acceptable Unacceptable

The new program has a professional-level teacher involved in a professional growth plan for 2 years and formal observation for 1 year. There is a provision for a teacher who is not meeting the performance standards to be placed into an intervention program at any time during the 3-year cycle, in order to focus on improving deficiencies. A review of the proposed program leads to numerous questions and concerns about some of the details that are not clear; however, a comprehensive analysis with recommended changes is beyond the scope of this study. The minimum requirement for the frequency of teacher evaluations varies among U.S. school systems. For example, in Maryland and Virginia new teachers are evaluated annually, but experienced teachers are evaluated every 1 to 5 years, depending on the county. Fairfax County teachers are evaluated every 5 years, although the superintendent has proposed a change to require an annual evaluation.[25]

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[24] DoDEA Teacher Performance Appraisal, June 17, 1998.

4. Conclusions

Outstanding teacher performance is a critical element in providing a quality education. There must be an effective system in place to evaluate it. The purpose of the performance appraisal system is to improve performance. The proposed system may offer a better performance appraisal program than the existing one, but that must be resolved between DoDEA and the unions. If the new system, or some version of it, is determined to be superior to the existing system, it should also be considered for use in DDESS. Although teachers who do not perform to acceptable standards represent only a small portion of the teacher population, their negative impact is felt by many students and among the other teachers. It does not appear that the process to remove a teacher is any more difficult or time-consuming than removing any government employee from federal service. Once a decision is made to remove a teacher, a cumbersome and lengthy process ensues, but due process procedures must be followed. Principals must accept and fulfill the responsibility not only to develop all teachers, but also to do what is necessary to remove unacceptable teachers. Teachers should be recognized for outstanding performance or superior accomplishment.

5. Recommendations

DoDEA should consider applying the new performance appraisal system, if approved, to all teachers in both DoDDS and DDESS.

DoDEA should provide extensive training for new principals on how to effectively evaluate and counsel teachers on their performance.

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[25] "Fairfax Looks at Teacher Reviews," *Washington Post*, September 9, 1999.

D. TEACHER RECRUITMENT AND RETENTION

1. Issue

Will the combination of an aging DoDEA teacher workforce and too many new teachers leaving DoDEA create a problem in staffing DoDEA with quality teachers?

2. Summary of Interviews

Some of those interviewed were concerned that DoDEA had a large percentage of teachers, perhaps 50%, that would be eligible to retire in 5 to 10 years. The percentage of new teachers that were leaving voluntarily after a few years, or who were not extended at the end of their 1- to 2-year probation seemed high.

Most of those interviewed had heard about the emphasis in hiring qualified military spouses as teachers. Both principals and teachers thought that the military spouse teachers were very good and provided a good link to the military community. They help other teachers understand the military lifestyle and the issues that concern parents. At the same time they can inform others in the community about what is happening in the school, dispel false rumors, etc. Some of those interviewed in each stakeholder group stated that the hiring policy required the principal to give priority to the military spouse, even if there was a more qualified applicant. However, they thought the policy should allow the principal to hire the best-qualified teacher. In the past a principal could hire a former student teacher who had been observed and evaluated for a semester, but this cannot be done now until all military spouse applicants are hired. This limits the incentive and opportunity for student teachers who have completed their student teaching in DoDEA schools; therefore, they may seek employment elsewhere.

Administrators stated that, for several years, selected principals attended teacher job fairs in the United States to conduct interviews and identify quality teachers. Now the DoDEA Personnel Office does this. Sometimes principals are able to interview a prospective hire from CONUS over the phone. New teachers stated that prospective teachers sometime find it hard to get good information about what it will be like to be a DoDEA teacher, the rewards and benefits, and the challenges and difficulties. Additionally, many qualified applicants are not offered a position until June or sometimes July. By this time some of the better ones may have already accepted a position in a stateside school system. Principals and military leaders were concerned that the quality of teachers may be lowered with the initiation of the policy that states DoDEA will hire a teacher who has a state teaching certificate, regardless of the awarding state's certification standards.

All educators supported the student teaching program and were pleased with the quality of student teachers they had. They were concerned that student teachers in DoDDS faced difficulties at some installations with respect to housing, access to military facilities, transportation, and medical needs that student teachers in the U.S. do not face. The military commanders at some installations had differing policies on support they would provide.

Educators and military leaders were concerned about the inprocessing procedures for new teachers, primarily the short amount of time, usually 3 days, they have to in-process before school starts. They thought this was an unrealistic burden on teachers because they could not accomplish everything. It probably impacted on their teaching, at least until all inprocessing was complete after the beginning of school.

Some teachers had been in the same school for many years and were viewed as homesteaders. Most parents and military leaders understood that DoDDS teachers wanted to teach overseas because of the opportunity for travel and adventure, in addition to teaching. They thought that many of the teachers were able to enhance their teaching with knowledge they had gained through their travels. Most teachers who had been in one location a long time were there because they enjoyed the location, and pointed out that most teachers in the States stay in the same school or district for most of their career, or they would lose their benefits. Others were there because of limitations in the transfer policy that made it difficult to transfer, even when they wanted to move to another location. Discussions about rotating or transferring teachers came only from those interviewed overseas.

3. Analysis

Only 1,652 (20%) of the current DoDEA instructional staff will be eligible for optional retirement in the next 6 years (SY 00–06) (table V-10). Based on an annual average, that would mean 34% of the instructional staff would be eligible to retire within 10 years. Instructional Staff is primarily teachers, but also includes counselors, psychologists, social workers, and JROTC instructors.

Table V-10. DoDEA Instructional Staff Eligible for Retirement

	Instructional Staff Eligible for Optional Retirement							Total Teachers SY 99-00
	SY00-01	SY01-02	SY02-03	SY03-04	SY04-05	SY05-06	Total	
DoDDS	218	178	196	218	213	209	1232	5726
%	3.8%	3.1%	3.4%	3.8%	3.7%	3.7%	21.5%	
DDESS	55	66	77	67	79	76	420	2470
%	2.2%	2.7%	3.1%	2.7%	3.2%	3.1%	17.0%	
DoDEA	273	244	273	285	292	285	1652	8196
%	3.3%	3.0%	3.3%	3.5%	3.6%	3.5%	20.2%	

% = number of teachers eligible to retire/number of SY 99-00 teachers

Source: DoDEA Personnel Division

An analysis of DoDEA teacher separations was done utilizing a database containing information on all teachers who separated from DoDDS during FY 95–99 and from DDESS during FY 98–99. Earlier data on DDESS teachers was not available in the DoDEA Personnel Division database. Table V-11 is a summary of the primary reasons for separations. Each of the reasons has several subcategories that allow DoDEA to track the reason for separation in greater detail. A detailed analysis of DoDDS separations is presented in appendix E, table E-4; DDESS separations are presented in appendix E, table E-5. A specific reason is entered by a personnel clerk based on input provided by the individual separating. Upon review of the detailed data it is obvious that the reason for separation could be listed under one of several categories, so further detailed analysis becomes difficult.

Table V-11. Reasons for Teacher Separations

Reason	DoDDS (5 Years)	DDESS (2 years)
Resignation	1199	155
Termination	535	44
Removal	4	4
Retirement	821	42
Death	23	0
N/A (no entry)	99	4
Total	2681	249

Also included in the appendix E, tables E-4 and E-5, is data on the years of government service teachers had at the time of separation. The range was from 0 to 45 years. Table V-12 summarizes separations of teachers with 0 to 5 years of service, showing that 46% of the DoDDS teachers and 61% of the DDESS teachers were in this category. The primary reason for separation during that period was resignation or termination.

Table V-12. Separations of Teachers with 0–5 Years of Service

	DoDDS (5 year period)				DDESS (2 year period)			
YOS	Resign	Termination	All Other	Total	Resign	Termination	All Other	Total
0	134	69	19	222	55	19	3	77
1	178	125	10	313	25	6	0	31
2	133	136	7	276	16	4	2	22
3	103	68	12	183	7	2	0	9
4	71	32	5	108	7	1	0	8
5	77	27	27	131	3	3	0	6
Total	696	457	80	1233	113	35	5	153

An analysis of teachers who retired from DoDDS and DDESS was also done in terms of years of service and number that retired each FY (table V-13).

Table V-13. DoDEA Teacher Retirement Data

YOS at Retirement		
YOS	DoDDS	DDESS
10 or less	83	2
11-15	97	2
16-20	100	5
21-25	143	11
26-30	241	7
31-35	123	12
36 or more	34	3
Total	821	42

# Retired Each Year		
	DoDDS	DDESS
FY 95	253	
FY 96	169	
FY 97	131	
FY 98	110	1
FY 99	158	41
Total	821	42

During the past 5 years DoDEA reduced the number of its teachers, primarily due to the military drawdown in Europe and the withdrawal of military forces from Panama. Many teachers were given bonuses to separate voluntarily and retire early. In comparing DoDDS retirement data over the past 5 years with the number of teachers eligible to retire in the next 6 years, it does not appear likely that there will be a mass exodus of teachers due to retirement. The retirement data for the DDESS teachers in the past 2 years is not adequate to support any conclusions.

The median age of all teachers in public schools in 1996 was 44.[26] In May 2000, the median age of DoDDS teachers was 48; of DDESS teachers, 45. Table V-14 summarizes the age range of DoDEA teachers.

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[26] National Education Association, "Status of the American Public School Teacher, 1995–1996," October 1997.

Table V-14. Age Range of DoDEA Teachers

	DoDDS		DDESS		DoDEA	
Age Range	# Teachers	Percentage	# Teachers	Percentage	# Teachers	Percentage
21-25	94	1.6%	49	2.0%	143	1.7%
26-30	351	6.1%	206	8.3%	557	6.8%
31-35	401	7.0%	274	11.1%	675	8.2%
36-40	584	10.2%	326	13.2%	910	11.1%
41-45	799	14.0%	393	15.9%	1192	14.5%
46-50	1076	18.8%	483	19.6%	1559	19.0%
51-55	1196	20.9%	408	16.5%	1604	19.6%
56-60	840	14.7%	225	9.1%	1065	13.0%
61-65	294	5.1%	75	3.0%	369	4.5%
66-70	72	1.3%	25	1.0%	97	1.2%
71-75	16	0.3%	4	0.2%	20	0.2%
76-80	2	0.0%	2	0.1%	4	0.0%
Total	5725	100.0%	2470	100.0%	8195	100.0%
Mean Age	47.2		44.5		46	
Median Age	48		45		47	
Youngest	22		22		22	
Oldest	80		77		80	

Source: DoDEA Personnel Center, Personnel database

A comparison of years of government service with age did not result in any significant correlation. Teachers in their first year of teaching in DoDEA ranged in age from 22 to 68. As the number of years of service increased, the age range decreased. For example, the age range for DoDEA teachers at 20 years of service was 41 to 71; at 30 years of service, 51 to 70. A detailed comparison is in appendix E, table E-6.

The DoDEA policy regarding the hiring of military spouses as teachers is covered as part of the policy related to family member preference. "Family member applicants receive preference in employment. Family member means a spouse of a member of a uniformed service, a Federal civilian employee, or a non-appropriated fund employee officially assigned to an overseas area. It does not apply to family members of retired sponsors, not to family members of U.S. citizens of private firms. This preference does not assure selection over non-family members who are otherwise better qualified."[27] A principal may still select the best-qualified applicant to fill a teacher vacancy. Principals are encouraged to hire local applicants, but if a principal thinks the applicant(s) may not be the best qualified, he/she can request a referral list from the DoDEA Personnel Center. An advantage to hiring locally is that the principal has the opportunity to conduct a face-to-face interview. Almost all family member spouses who are qualified are hired. Some confusion may exist about the requirement to hire a local candidate because the DoDDS Recruitment Plan, School Year 2000–2001 lists fully-qualified local candidates as the first priority to fill vacancies in DoDDS and states that they will receive priority consideration. There is no reference to "best qualified"; however, it does state that military spouse preference is not applicable to the referral and selection of professional educators. DoDEA published a brochure to recruit local hires that is available in DoDDS schools that also may cause also confusion.[28] It states that "local applicants are given preference over U.S. applicants in filling educator positions. If no qualified local candidates are available at the time recruitment is initiated, the position will be filled through the DoDEA worldwide teacher applicant database." There is no mention of "best qualified."

A new hiring policy will go into effect for SY 00–01 that revises the basic qualification requirements for teaching applicants.[29] This policy does not apply to DDESS, which recruits teachers using the qualifications and requirements for the state in which they are located. DoDDS will accept any valid state teaching certificate, rather than having to meet DoDDS qualification standards exclusively. In addition, state competency tests will be required instead of the NTE or the Praxis exam. A new teacher who is certified in a state that does not require a competency exam will be required to take the Praxis exam within 2 years. The competency test requirement will be eliminated for applicants with 7 or more years of successful teaching experience. A secondary teacher with a certification from a state that does not require the same number of semester hours that DoDEA requires (24) in order to teach a subject must earn the additional semester hours within 2 years. DoDEA is staffing a proposal to increase the minimum number of semester hours from 24 to 30 hours. A second teaching category is required for all secondary positions, with some exceptions. On rare occasions, DoDEA may grant a waiver for a teacher if he/she is within a couple of hours of having 24 hours in a subject area, if they need a teacher for that subject area, and the teacher is otherwise qualified.

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[27] "DoDEA Teacher Recruitment," DoDEA Personnel Center Web site, <http://www.odedodea.edu/pers/Employment/Application/index.htm>.

[28] DoDEA Brochure, Great Schools – Great Jobs, Local Hires, undated.

[29] DoDEA Policy Memorandum 00-P-001, Revised Policy for Appointment to Professional Educator Positions with the DoDDS, April 14, 2000.

State certification and testing requirements vary greatly.[30] Only 17 states require beginning teachers to have subject-specific secondary-level certificates for middle school. All 50 states require them for high school. There are also significant variations in subject-area coursework requirements. There are 30 states that require some amount of coursework for middle school ranging from a minor or major in the field, and/or from 12 to 24 semester hours. All states at the high school level require coursework, which can be a minor or major in the field and/or 16 to 45 semester hours. Thirty-nine states require teacher candidates to pass a test of basic skills or general knowledge. Twenty-nine states require subject-area tests in core subject areas for high school teacher candidates. However, nearly every state provides waivers from meeting specific requirements. For example, of the 39 states that require the basic skills test, 36 permit someone to teach without passing the exam. The waivers are good for 1 to 5 years, depending the state, type of certification, and type of waiver.

As a result of the high turnover rates among students and teachers, the Personnel Office has a challenging task to determine the number and types of teachers, especially at the middle school and high school levels, that need to be hired each year from various sources. For DoDDS in SY 99–00 about 350 teachers were hired from CONUS and about 500 teachers were hired locally. The DoDEA Professional Recruitment Office uses numerous methods to recruit applicants to become DoDEA teachers.[31] In SY 99–00 it conducted 57 recruitment trips and spent approximately $40,000 in advertising. Current and former DoDDS administrators accompanied personnel specialists to 16 of these locations. DoDEA conducted a hiring analysis over the past 3 years by teacher category to determine projected requirements. In areas in which DoDEA routinely experiences shortages of qualified teachers, it recruits at colleges and universities that have strong programs in those shortage areas, as well as at institutions with strong teacher education programs. According to DoDEA personnel data, the minority composition of the teacher workforce was 11.7% in SY 99–00, compared with 15.8% for the minority composition of the professional teacher workforce, based on Census Analysis Data. To recruit minorities DoDEA focuses efforts on Historically Black Colleges and Universities, the Hispanic Association of Colleges and Universities, and institutions with significant enrollments of Asian Americans and Native Americans. DoDEA does not have a recruiting plan for DDESS because the superintendent and teachers in each district determine their requirements and do their own hiring.

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[30] "Education Week Survey of States, Quality Counts 2000," op. cit.

[31] DoDEA Personnel Center, DoDDS Recruitment Plan, School Year 2000–2001, undated.

Student teachers can be an excellent source of future teachers.[32] Student teachers may not receive any compensation from the federal government. They are not entitled to travel, subsistence expenses, quarters, allowances, differentials, or any other reimbursement or payment in kind. Student teachers who perform their duties in the United States usually do so in a school near their campus or home, and do not have the large financial expenses incurred by student teachers in DoDDS. During SY 00–01 DoDEA will conduct a pilot program with a limited number of minority student teachers to pay for travel to and from the overseas duty station. Based on interviews, some military installation commanders provided assistance to student teachers by providing temporary housing, furniture, and PX/commissary privileges, while others did not. Teachers who mentor student teachers receive no assistance or benefit despite the additional hours they spend working with them, and in some cases providing assistance like housing and transportation. Student teachers are not guaranteed a job if they apply to teach with DoDEA, but they realize their chances are better than a new teacher who has not had the experience of teaching in a DoDEA school. The DoDEA personnel office attempts to recruit all student teachers who are recommended by the principal where they did their student teaching. Despite the opportunity for teachers and principals to observe and evaluate student teachers, and to identify those with strong teaching skills, student teachers are the fifth priority for filling teacher vacancies in DoDDS.

New teachers are encouraged to go overseas as soon as possible after August 1 to complete inprocessing, get an identification card, find housing, get their vehicle registered, etc., before school starts. They are paid a temporary living quarters allowance after August 1, but their base pay does not begin until 3 days prior to the beginning of school. Based on interviews, most teachers hired from CONUS cannot arrive by August 1 because they are still trying to arrange shipment of household goods, get their passport, arrange travel, etc. Each school and district has its own sponsorship program for new teachers. Most assign another teacher as a sponsor, but new teachers report that the sponsor is often on vacation in the U.S. when they arrive. In their absence the school will identify someone else to serve as a "meeter-greeter." Some schools provide detailed packets with information about the school and the installation, and others provide packets that are not very good. Military commanders stated that military personnel reporting for duty are usually given 7 to10 days to complete inprocessing so everything is done and they can begin work without any distractions.

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[32] DoDDS Regulation 5308.1, DoDDS Student Teaching Program, July 8, 1987.

One of the benefits of teaching overseas is the opportunity to travel. Some teachers stay in the same location for many years, and others submit a transfer request as soon as they are eligible. Teachers who teach at a school in the United States usually stay in the same school, or in the same district, for their entire career. According to the DoDEA Personnel Center it costs about $12,000 to transfer a teacher. In terms of filling priorities for vacancies in DoDDS, the third priority is the teacher transfer program. Within the transfer program, teachers are placed in six priority groups based on specified criteria. There were 266 applicants (33% of those eligible) matched for transfer in SY 00-01. Teachers who listed broad location choices were more likely to be transferred than those who listed specific schools.[33]

4. Conclusions

A large percentage of teachers are eligible to retire in the next 5 to 10 years. If separations continue at the same rate as in the past 5 years, there will be a large number of new teachers who separate with less than five years of service. Because of the recent initiatives to hire local military spouses, it is too early to assess the overall impact of this program, positive or negative, on teacher recruitment and retention. It may mask problems, or serve to alleviate problems that might develop if the program did not exist. Based on 4-year-old data about the U.S. teacher median age, the median age of DoDEA teachers is 3 years higher than the national average for U.S. teachers. If current data were available, the median ages might be about the same.

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[33] DoDEA Personnel Center, The Personnel Advisor, June 2000 – Vol. 5.

Recruiting will become more challenging for DoDEA as all school districts in the U.S. deal with an increased demand for teachers. The policy to hire local family members has resulted in many good teachers being hired who provide a positive link to the community and save DoDEA money. Although DoDEA is changing its qualification requirements to make it easier to hire military spouses as well as teachers with state certifications, DoDEA must be careful not to allow any lowering of quality in the teachers hired. With all of the caveats that the states have for teacher certification, DoDEA must ensure that criteria for DoDEA teachers are not compromised. The recent change to use current and former administrators in recruiting and interviewing prospective teachers should help the applicants get a better understanding of the teaching profession in DoDEA and hopefully ensure recruitment of better-qualified teachers. DoDEA appears to motivate student teachers to return to DoDEA after graduation, but more could be done by DoDEA and the military to make student teaching a positive and rewarding experience through better support for both student teachers and teacher mentors. DoDEA's late offering of employment to CONUS hires and its policy of not paying new teachers until 3 days before school starts hinders inprocessing and may cause new teachers not to focus all thoughts on their primary mission. The inability of some teachers to get a transfer, especially from assignments in difficult locations primarily in DoDDS-Pacific, may impact adversely on morale, retention, or teaching quality.

5. Recommendations

DoDEA should closely monitor retirement and other separations for trends that may indicate a need to conduct more aggressive recruiting or to develop incentives to keep teachers in the workforce longer.

DoDEA should track the impact of the recent policy changes related to hiring local family members as teachers, and accepting certification from any state, to determine the impact on the workforce in terms of recruiting, retention, and quality of teachers.

DoDEA should review existing policies related to teacher mentors and student teachers to determine what changes would improve the program, and work with the Services and OSD to make necessary changes.

DoDEA should change its policy and require new teachers to report 7 days early to complete inprocessing and provide them pay and allowances to cover that 7-day period.

E. PRINCIPALS, SUPTERINTENDENTS, COUNSELORS AND INSTRUCTIONAL SYSTEM SPECIALISTS

1. Issue

Is there less interest in becoming a principal or superintendent, which will lead to a shortage of highly qualified administrators? Are counselors, especially at the high school level, doing a good job helping students? Are instructional system specialists qualified in all subject areas they are responsible to coordinate?

2. Summary of Interviews

Administrators stated that they were seeing fewer teachers who wanted to become administrators. Some thought that the quality of those who were applying seemed lower than in the past. Military leaders and parents commented that the quality of principals varied and that some lacked adequate management and leadership skills. The principal rotation policy in DoDDS seemed to be working well. Most of those interviewed supported the policy, though some expressed concern when a great principal was transferred. Some principals said they are given no choice in where they go, but would like to provide preferences for consideration. Likewise, the military leaders expressed a desire to provide input to the superintendent on timing of the move and the attributes they would like to see in the replacement principal. Some military leaders indicated they provided input on principal performance at the end of the year to the superintendent, and others did not do this. Principals stated that their number one priority was to work with and supervise teachers. They thought that there were too many administrative requirements and too much paperwork required by DoDEA headquarters that precluded them from performing their primary duty effectively.

Most parents did not think that the counselors were as good as they should be, or doing what they should, especially related to helping students with the college admission process, transition to work, etc. They were glad to see more counselors being hired by DoDEA. Students had to be aggressive/assertive to get help from the counselor. Parents thought they were doing much of the work that counselors should be doing to help their child with the college admission process. Some did not mind but were concerned about those parents who did not know what to do. Most schools had college nights, but they were usually sponsored and/or coordinated by the PTSA or SAC, rather than the school. Counselors seemed to be too busy with other additional duties unrelated to counseling.

Educators were concerned that although instructional system specialists at the district level are trained in the primary subject area for which they are responsible, they usually lacked training and expertise in other subject areas for which they were also responsible. This limited their ability to evaluate instruction, provide assistance to teachers, and assess what could be done to improve instruction.

3. Analysis

The administrators at the school and district level are critical leaders in the educational system. The DoDDS Educator Career Program (ECP) is used for the selection and placement of school-level and above school-level supervisory, managerial, and specialist educator positions.[34] Teachers apply to enter the ECP if they are interested in becoming administrators. They must satisfy specified academic requirements for graduate courses in such areas as supervision, curriculum, instruction, leadership, and theories of management and change. DoDEA conducts an annual board to select eligible applicants for the ECP. Although the ECP does not address any training requirements or opportunities for those selected, an individual selected from among those in the ECP program to become an assistant principal (AP) attends a 1-week training course in the summer. He/she then is assigned to a school and principal who provides mentoring and supervision. Individuals selected to be principals and superintendents receive 1 week of training in the summer and then have requirements to accomplish during the school year in addition to being supervised. This cycle is repeated the next year with training, requirements, and supervision, followed by 1 more week of training during the summer. DoDEA is considering linking the training and development of administrators with a national leadership organization such as the Center for Creative Leadership in Greensboro, NC.

The *Washington Post* reports that a national survey of 400 superintendents indicated that half of them thought there were too few candidates for principals' jobs. Maryland, Virginia, and Washington, DC, schools are experiencing a high number of principal retirements and seeing fewer candidates to succeed them.[35] A task force report submitted to the Maryland Board of Education recommended that the school system reduce the administrative burden on principals, improve training programs, and adjust salaries and benefits.[36]

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[34] DS Regulation 5335.9, DoDDS Educator Career Program, January 15, 1991.

[35] "In School, Changes at the Top," *Washington Post*, June 25, 2000.

DoDEA implemented the principal rotation policy in DoDDS at the request of military leaders. At the time some principals had been in the same school for 15 to 20 years. District superintendents, area directors and the Director, DoDEA decide where principals will be reassigned.[37] The policy requires that a principal be rotated normally after 5 years at one school. The 5-year tenure was selected because DoDEA believes it takes a principal that long to assess the current education environment and issues, implement any necessary changes, and assess the results. The rotation policy states that a number of factors will be considered in the reassignment of administrators. These include qualifications and preferences of administrators, input from the community stakeholders, and recommendations of district superintendents and other DoDEA officials to ensure that the administrator's experience and skills are consistent with community needs. There is no principal rotation policy in DDESS. Some DDESS superintendents thought that a rotation policy within a district, i.e., between schools at that installation, might be good. At some locations discussions with parents and military leaders indicated that a former principal was not as effective as they would like, and they thought the new principal was doing a better job. At other locations, those same principals who had been assessed as not being as effective as they should be were reported to be doing an excellent job.

DoDDS policy requires district superintendents to get input concerning a principal's performance from the appropriate base or community commander, but this policy is not widely known or consistently applied. The input should be considered when conducting performance evaluations of school principals.[38] In DDESS the school board provides a written evaluation on the superintendent to the Deputy Director, DoDEA for DDESS for his consideration prior to preparing the superintendent's performance evaluation.

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[36] "Vacancies Predicted in Principal's Office, *Washington Post*, June 21, 2000.

[37] DoDEA, DoDDS Policy Memorandum 97-P-002, Rotation of Administrators, May 13, 1997.

[38] DoDDS Memorandum, Subject: Community Input on Principal's Performance Evaluation, May 12 1989

The change in staffing standards effective for SY 99–00 for school guidance counselors on the basis of one for every 300 students should help alleviate some of the problems experienced in the past. Counselors should help high school students learn about the college application process: completing applications, applying for scholarships, obtaining letters of recommendations, providing transcripts, etc. Students overseas have limited opportunity to visit college campuses or have college recruiters visit the high schools. These students may be put at a disadvantage when it comes to deciding which are the best schools for them. An effective college information program could help these students. Those high school students not planning to attend college should also receive help in choosing and planning a career. A detailed assessment of counselor performance was beyond the scope of this study.

There are instructional systems specialists at DoDEA headquarters for each subject area. They are called curriculum coordinators in DoDDS and instructional systems specialists in DDESS. There are no instructional systems specialists at the area level (DoDDS-Europe, DoDDS-Pacific, or DDESS). According to the DoDEA staffing standards, each DoDDS district is authorized four curriculum coordinators, and two education generalists. The curriculum coordinators support the core subject areas of language arts/reading, mathematics, social studies, and science. These curriculum coordinators and the education generalists are also assigned responsibility of providing support in the remaining subject areas. There is no adjustment in authorizations as a function of the district student enrollment or teacher authorizations. The largest school district, Japan, with 11,137 students, and the smallest district, Turkey/Spain, with 3,859 students, each have 4 curriculum coordinators. In DDESS the instructional systems specialists are authorized based on the student enrollment. Fort Campbell, with 4,469 students, is authorized six and Robins AB with 795 students is authorized two. DoDEA instructional systems specialists spend 1 week each in Europe and the Pacific training new coordinators. The district curriculum coordinators also attend national and regional curriculum conferences in the United States that take them away from their primary duties.

4. Conclusions

Educators, primarily principals and superintendents, must continually identify and encourage high quality teachers to become school administrators. There should be a systematic plan to continually provide professional development opportunities for principals and superintendents, just as there is for teachers. Installation commanders may express the community's desires for the type of principal that they consider will be most effective in their schools. Principals can provide their input for consideration on reassignments. All superintendents in DoDDS and the Deputy Director, DoDEA for DDESS are required to consider the input of the installation commander or school board regarding the performance of the principal or superintendent when his/her performance appraisal is prepared.

Counselors need appropriate training and materials to perform effectively. Increasing the number of counselors in the schools should alleviate many problems, but principals must also ensure that counselors have adequate time to perform their counseling duties.

Curriculum coordinators cannot properly perform their duties if they are not qualified in the subject areas they coordinate. As a result, the quality of the instruction may suffer. The coordinators could assist teachers in improving instruction and could use the information from visits to the schools to assist in updating and revising curriculum at DoDEA curriculum meetings.

5. Recommendations

DoDEA should review the ECP and retirement trends of principals and superintendents to ensure that DoDEA can recruit and retain quality administrators.

DoDEA should ensure compliance with the procedures outlined in the principal rotation and principal/superintendent performance appraisal policies.

DoDEA should conduct a study to determine how to reduce the administrative requirements on principals.

DoDEA should develop an effective prototype for a college information program to be used annually by counselors in every high school.

DoDEA should conduct a feasibility study on relocating all instructional system specialists/curriculum coordinators to area offices and having an adequate number with experience and training in every subject area to provide quality support to the schools and liaison to the DoDEA Education Division.

F. TEACHER UNIONS

1. Issue

Are teacher unions more interested in protecting teachers than they are in education of children?

2. Summary of Interviews

Teacher unions were viewed as both part of the solution and part of the problem in terms of providing a quality education. Many military leaders and parents understood the need for and purpose of teacher unions, but some had the impression that unions do not care about students. Some parents and military leaders thought the unions spent too much time protecting a poor-performing teacher, when they should be like other professional organizations and police their own ranks. They should identify and help a poor-performing teacher to improve, and if there is no improvement, encourage the teacher to leave the profession. Some teachers were also dismayed at the extent to which some unions supported incompetent teachers.

Union representatives stated that they do not want poor performing teachers in DoDEA, but at the same time they do ensure that due process procedures are followed. They thought some principals do not know how to deal with an ineffective teacher. The unions represent all teachers, not just the union members. They stated that at some locations teachers seem to be treated with contempt and in an unprofessional manner by school administrators. Before an administrator makes changes, they expect to have them bargained when required. Some union leaders reported counseling poor teachers to improve or leave the system.

All educators agreed that the key to a successful relationship between union leaders and administrators at all levels was open and effective communications. Most did not want to have an adversarial "we-they" relationship. Success in dealing with issues was also a function of personalities. Some teachers have become disheartened by the actions of unions. They reported frustration at being told by the Faculty Representative Spokesperson (FRS) or Labor Union Representative (LUR) that they should not volunteer to do things beyond their normal duties, and that those activities should be bargained by the union for additional compensation. If teachers do something that is not required by or covered in the bargaining agreement, they are told it makes it more difficult to negotiate benefits. In one school district the administration offered to provide training after school on a volunteer basis, and several teachers volunteered. The union wanted to grieve it and seek compensation, but the teachers did receive the training on their own time. Some special education teachers expressed concern that sometimes it was difficult to find time to collaborate on a child's Individualized Education Plan (IEP) because the only time they could do it was during lunch, a free period, or before or after school. If the other teacher did not want to do it then, there was little they could do about it because union agreements stipulate this is a teacher's individual time.

3. Analysis

Two primary unions represent the teachers in the majority of the schools. The Federal Education Association (FEA) represents all of DoDDS, except for the Italy and Turkey/Spain district, which is represented by the Overseas Federation of Teachers (OFT). Effective July 1999 the FEA-Stateside Region (FEA-SR) represents all DDESS districts except the Antilles, PR; Dahlgren, VA; and Guam, who have their own unions.

By law, the union is the exclusive representative of the employees it represents and is entitled to act for and negotiate collective bargaining agreements for them. They are responsible for representing the interests of the employees.[39] The unions are required to represent all teachers, not just those who are members of the union. The employer is required to give timely notice to the union about changes related to the conditions of employment, which include personnel policies, practices, and matters affecting the working conditions of employees. Any new or proposed changes to the conditions of employment that impact on employees must be bargained prior to implementation.[40] This includes such activities as professional development training and training on new curriculum implementation. When teachers are assigned to do something that requires additional work hours, they are supposed to be compensated, e.g., coaching a sport or sponsoring an extracurricular activity. The agreements make clear that teachers are expected to do whatever additional preparation is necessary to perform their professional teaching tasks. No labor agreement precludes a teacher from volunteering to participate in an activity, but the FEA-SR labor agreement does require the administration to notify the FRS if it solicits volunteers. The labor agreements also make clear that effort should be made to resolve issues at the school level on an informal basis. Based on interviews, this was being done where there was a good professional relationship between the principal and the FRS. At other locations where the principal-FRS relationship was not good, more grievances were filed.

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[39] Title 5, U.S. Code, Government Organizations and Employees, Chapter 71, Labor-Management Relations, Section 7114 Representation Rights and Duties.

[40] Negotiated Agreement Between Department of Defense Dependent Schools and Overseas Education Association, September 1989; Collective Bargaining Agreement between Overseas Federation of Teachers, AFT, AFL-CIO and Department of Defense Dependent Schools, June 1994; and Master Labor Agreement Between Federal Education Association Stateside Region (FEA-SR) and Department of Defense Domestic Dependent Elementary and Secondary Schools (DDESS), April 1999.

The FRS and union leaders at higher levels spend considerable time assisting teachers in the resolution of issues related to pay, medical treatment, infringement on time, and living conditions. The union does provide assistance to teachers who have received an adverse performance appraisal. There are specific procedures in the labor agreements that must be followed when this happens, and the FRS ensures that they are followed and that the teacher receives due process. When procedures are not followed, a grievance can be filed. Based on the interviews it appears that the unions are beginning to take more responsibility for identifying and counseling teachers to improve or leave the profession if they cannot meet the standards, at least in some locations.

4. Conclusions

Administrators understand the requirement to inform, and if necessary negotiate, any change in personnel policies, practices, and matters affecting the working condition of teachers, and most comply. The unions do help teachers and ensure that due process is accorded all teachers. When both the administrator and the union representative at whatever level have open communications, and mutual respect and confidence in each other, issues are usually resolved at the lowest appropriate level. When there is an adversarial relationship, there is usually a negative impact that, depending on the seriousness of the issue, can affect the quality of education.

5. Recommendation

DoDEA and the union leadership at each level should educate military leaders, schools officers, and parents on the roles and activities of the union and should work together to resolve issues in a way that the quality of education is enhanced.

VI. SCHOOL ENVIRONMENT

A. OPPORTUNITY

1. Issue

Should DoDEA reduce the number of small schools or eliminate them altogether if opportunities similar to those available in larger schools cannot be provided?

2. Summary of Interviews

Military leaders and parents want the best possible education for their children. They stated that no child should be disadvantaged because of where the military parent is stationed. The ideal solution is that every child, regardless of school size or location should have the same opportunity. The military leaders, especially overseas, want their personnel focused on the mission without having to worry about their child's education. A parent commented in an interview that "the children in the schools will someday fly the planes, drive the tanks, and steer the boats. We must ensure a top-quality education." They want to ensure that their children have the opportunity to achieve their maximum potential with a curriculum that keeps them competitive with any school system their children may attend in the United States. DoDEA educators want to provide the best education possible to all children regardless of their capabilities or limitations.

Each stakeholder group mentioned many of the same advantages and disadvantages of attending a small DoDEA school versus a large stateside school. In the areas of curriculum, sports, and extracurricular activities, more opportunities were available in larger schools. In the area of social interaction, teachers in small schools know students better, can focus on individual and unique needs, and provide more close personal attention. Students are more readily accepted and have more opportunity to practice leadership skills, develop self-confidence, and get to know each other. The same assessment applied also to the various sizes of DoDEA schools. The concerns about curriculum and activities were more pronounced at the high school level than the middle or elementary school level. Several options were discussed that might eliminate small high schools: combining small schools with larger existing schools and busing the students, consolidating housing and schools at large installations and having the military parent commute to his place of duty, sending students to live in a dormitory, or restricting accompanied tours if a school is not available at the installation. None of these options was viewed favorably by military leaders or parents.

All groups agreed that a major advantage of attending an overseas school was the opportunity to travel and experience other cultures. Attending schools that are safer, more drug-free, and better disciplined than stateside schools was also cited as an advantage. This applies to both DoDDS and DDESS.

3. Analysis

When military personnel are assigned within the United States, they usually have some discretion on where they can live. Depending on the availability of housing and the housing regulations, there is often a choice of living on the installation or in the local community. If they live on the installation, by direction or choice, the children attend an on-post or off-post school operated by the LEA (except for the 16 installations with DDESS schools). If they live in the local community, whether assigned to a military installation or not, they can live where they want, and to some extent will select an area based on their knowledge of the quality of education provided by a particular school or school system. They may have a choice of public schools, to include magnet schools, or private schools. In the case of the installations with DDESS schools, parents usually decide to live on the installation so their children can attend the DDESS schools.

When military personnel are assigned on an accompanied tour overseas, they do not have a choice where they live and therefore do not have a choice in where their children attend school. Whether the military sponsor and his/her family live on an installation, or live on the local economy, there is no choice about schools. They attend whatever school is there, regardless of size, grades taught, course offerings, or sports and extracurricular activities available.

DoDEA provides schools at installations around the world based on student population and facilities. Among the 224 DoDEA schools there are 30 different combinations of grades, e.g., pre-kindergarten through grade 12, kindergarten through grade 8, grades 4 through 8, and grades 6 through 12. Appendix F, table F-1, is a complete list of school combinations in each district of DoDEA.

A small DoDEA school is an elementary school or elementary/middle school with fewer than 200 students, or a high school with fewer than 260 students. There are 167 schools in DoDEA that include some combination of grades PK/K–8 (Table VI-1). Enrollment in these schools ranges from a high of 1,401 students at Sullivans ES (Japan) to a low of 32 students at Joy ES (Korea). Of the PK/K–8 schools, 48% have an enrollment of 300 to 599 students and 73% have an enrollment of 200 to 699 students. Based on the DoDEA staffing guide for elementary and middle schools and combinations of them, there is a small school allowance that allows for additional teacher staffing when the enrollment is below 200 students. Eighteen schools meet this criterion.

Table VI-1. Distribution of Schools with Grades PK/K-8

Students	Europe	Pacific	DDESS	Total
1000+	3	4	1	8
900-999	2	1	1	4
800-899	1	3	1	5
700-799	5	3	2	10
600-699	8	4	9	21
500-599	9	5	10	24
400-499	13	2	11	26
300-399	11	1	18	30
200-299	12		9	21
100-199	10	1		11
1-99	6	1		7
Total	80	25	62	167
Small School	16	2		18
Enrollment				
Mean	432	704	476	
Median	407	675	441	
Highest	1136	1401	1028	
Lowest	42	32	231	

Source: DoDEA Enrollment Reports, 30 Sep 99

There are 57 schools in DoDEA that include grades 9 through 12 (Table VI-2). The high school enrollment in these schools ranges from a high of 885 students (185 seniors) at Ramstein HS (Germany), to a low of 21 students (1 senior) at Livorno ES/HS (Italy). Enrollment for all high schools is shown in appendix F, table F-2. The mean high school student enrollment is 305 and the median enrollment is 243. Of the grade 9–12 schools, 32% have an enrollment of 100 to 199 students. Based on the DoDEA staffing guide for high schools there is a small school allowance (additional teacher staffing) when the total enrollment (all grades) is below 260 students. Twelve schools meet this criterion.

Table VI-2. Distribution of Schools with Grades 9-12

Students	Europe	Pacific	Cuba	DDESS	Total
800-899	1	1			2
700-799	1	1			2
600-699	1	1			2
500-599	3	1		3	7
400-499	1	1		2	4
300-399	4	2			6
200-299	7			1	8
100-199	12	4		2	18
1-99	6	1	1		8
Total	36	12	1	8	57
Small School	10	2			12

Source: DoDEA Enrollment Reports, 30 Sep 99

Elimination of small high schools is not feasible for a number of reasons. Combining or consolidating high schools and busing students would require many students to commute more than an hour each way, which is the maximum commute time that DoDEA strives not to exceed. Longer commutes could also add to bus discipline problems. Most small schools are on Army installations. Consolidating housing and schooling on large installations would be difficult because of construction and relocation costs, existing host nation agreements, etc. The military parent already works long hours and a long commute would exacerbate this situation. If the small high schools were closed and the students were not bused, they would have to go to a school with a dormitory. London Central HS in England is the only high school that has a dormitory. Its 63 students come from installations without enough students to support a high school, or from another high school within a satisfactory commuting distance. While DoDEA and the military do their best to accommodate these students and provide additional services, increasing the dormitory population is not a desirable alternative from a quality of life perspective. Closing schools and changing tours to unaccompanied tours is also unacceptable from a quality of life standpoint.

The major challenge in small high schools is to provide more courses and extracurricular activities for the students. Where staffing cannot be justified because of the small number of students who could or would enroll in a course, alternative solutions must be found. These include offering courses through distance learning, allowing students to take courses by correspondence, taking college level courses offered through the installation education center, or getting credit through an independent study program. DoDEA is providing these options at many schools, but not all options are appropriate for all students.

Some schools offer a list of activities based on the availability of teachers to sponsor them. This sometimes results in activities being offered for which there may not be much interest. Other schools identify student interests and do their best to accommodate them. This is sometimes difficult if there are no teachers willing to sponsor the activity. Parents and other military personnel can volunteer to lead these activities, but DoDEA still requires a teacher sponsor. Curriculum, distance learning, staffing, and extracurricular activities are discussed in other sections of the report.

4. Conclusions

Military parents usually have some control about where their children attend school in the United States, but the same is not true overseas. DoDDS exists to provide dependent education overseas, wherever required by OSD and based on the student population. The primary concern about opportunity relates to availability of academic courses, sports, and extracurricular activities available for students regardless of school size. Actions discussed in other sections of the report could provide more opportunities for students in small schools. DoDEA schools range in size from 1,401 to 32 students. It is not feasible to close a small school unless another school is within a 1-hour commuting distance. Other options related to closing small schools would have an adverse impact on the quality of life for military families. If parents are informed about the advantages and disadvantages of a small school, the opportunities available in the schools, and the successes of children in small schools, this will help alleviate the apprehension they may have about having their child attend a small school.

5. Recommendation

DoDEA should continue to explore ways to provide expanded opportunities for students in small schools.

B. SCHOOL IMPROVEMENT PLANS AND FRAMEWORK SCHOOLS

1. Issue

Does the school improvement plan contribute to the educational quality of the schools? Is the program for identifying and improving low-performing schools effective?

2. Summary of Interviews

Most of those in each stakeholder group stated that the school improvement plan (SIP) was useful if the school focuses on essential issues and does not get bogged down in paperwork. The administrators thought decisions about the SIP should be made at the school level, not by DoDEA. They noted that some elements of their SIP could not be implemented because of limited resources. Some teachers thought it required too much time and effort. The districts monitor monthly reports to see if the schools are doing what they committed to do in their SIP. Some districts pull together the SIP team to review and evaluate best practices. Some of those interviewed questioned whether the SIP was accomplishing anything. Each of the schools/districts where the SIP was discussed had a wide variety of programs at the school level. Many of the school-level educators mentioned that their school had received favorable ratings in the last accreditation visit, and that accreditation focuses primarily on school improvement.

Most discussion that related to the quality of a school as an entity was about the schools that had been designated "Framework Schools," i.e., schools with low average test scores. Stakeholder groups at those locations stated that DoDEA Headquarters handled the identification and notification of schools very poorly. At one school, teachers learned about it from a video by the former Director, DoDEA shown during a teacher's meeting. There was no warning about the program or selection criteria used, or an opportunity to improve prior to designation. There were no criteria for removing the stigma and moniker. Many educators and parents realized there were benefits to the program after they overcame their indignation. All schools had good site team leaders assigned to the school to assist administrators and teachers for 2 years. Site team leaders provided focused professional development at the school, but in some locations, superintendents had the training presented at other schools as well. Teachers benefited by learning about current research on best teaching practices and strategies and ways to work more effectively. Principals have tried to get parents involved and offered workshops on how to help children. Educators agreed with the need for high standards, but consistent and sustained improvement in test scores is difficult with the demographics and high turnover of students.

3. Analysis

a. School Improvement Plans

DoDEA developed a Community Strategic Plan (CSP), 1995–2000, in August 1995 with 10 goals and 40 benchmarks, or measurable commitments, for those goals. From those goals and benchmarks "the DoDEA staff, Superintendents, and School Boards determined systemwide priorities. The districts and schools were given the flexibility to address their students' needs through the development of unique strategies suited to their communities."[1] The District and School Accountability Profiles for SY 95–96, SY 96–97, SY 97–98, and SY 98–99 provide a brief summary of accomplishments related to the DoDEA Strategic Plan, SIP priorities. During the 4-year period, only five benchmarks each for DoDDS and DDESS, of the 40 benchmarks in the CSP, were included in the SIP (table VI-3).

Table VI-3. Focus of DoDEA School Improvement Plans

Goal/Benchmark	System	SY 95–99
3. Student achievement & citizenship		
3.1 Increase proficiency in Language Arts/Reading	DoDDS	X
3.10 Demonstrate student technological proficiency	DDESS	X
4. Math & science achievement		
4.2. Narrow the achievement gap between racial, ethnic & gender groups	DoDDS	X
4.3. Increase student proficiency in math and science	DDESS	X
7. Teacher education & professional development		
7.1 Provide professional development structure for educators	DDESS	X
8. Parental Participation		
8.1. Implement/evaluate multi-tiered school-home partnership	Both	X
10. Organizational Development		
10.7. Effective communications system for all DoDEA constituencies	DoDDS	X
10.8 Establish technology for teachers and administrators	Both	X

Source: DoDEA School Accountability Reports, SY 95–96 through 98–99

The CSP also stated that adopting some of the goals while ignoring the others will not result in a system capable of raising the achievement of all students.[2] The conflicting guidance in the CSP, as well as the requirement to develop a school improvement plan that is in fact directed by DoDEA, leaves stakeholders confused and frustrated. DoDEA was demanding too much from schools to expect them to be able to focus the necessary resources (time, personnel, and funds) on 40 benchmarks. To do that properly they need measurable standards and baseline data. Not all of the benchmarks have measurable standards, and it takes time to gather baseline data. It also takes time to evaluate how well the school is doing against the benchmarks, and more importantly to determine how to effect change and improve, if necessary. By limiting the number of benchmarks to focus on, DoDEA enabled schools to save resources. However, the resources might be more effectively harnessed if the schools could determine how to use them, based on their own assessment of what needs to be improved. Also focusing on the same benchmarks for 3 to 4 years does not allow any opportunity to recognize that things change, improvements are made, and other benchmarks may become more important. Within the guidance and constraints provided by DoDEA, each of the schools did identify specific areas on which to focus, and these usually changed each year. A review of the accountability reports indicates that they have generally been successful in meeting their stated objectives.

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[1] Department of Defense Education Activity, Community Strategic Plan, Volume 1, August 1995.

[2] Ibid.

Accreditation is a continuous process that encompasses an outside assessment by professional educators and focuses on school improvement. The DoDDS Accreditation Program states that all schools are required to achieve and maintain accredited status by a regional accrediting association.[3] The North Central Association, Commission on Schools (NCA), accredits all DoDDS, Puerto Rico, and Guam district schools. The Southern Association of Colleges and Schools (SACS) accredits all DDESS schools, except for the West Point schools that are accredited by the Middle States Association. The NCA provides accreditation for more than 8,800 schools in 19 states, and the SACS provides accreditation for more than 8,200 schools in 11 states.

Both the NCA and SACS have similar procedures. The schools are accredited 1 year at a time, based on an annual self-report that indicates compliance with specified standards. Both conduct a comprehensive on-site peer review by a team of professional educators every 5 years. They pay particular attention to the SIP and assess how well the school is meeting its own goals and objectives. During that review they conduct interviews with school personnel, students, and members of the community and review data to assess conformance with prescribed standards. The NCA has 5 major areas with 157 specific elements that are evaluated.[4] The SACS also have comprehensive standards but accreditation is done by a state level agency, so there is some variation among the states. At the end of the review there is an outbrief. The team identifies strengths and weaknesses and provides recommendations for improvement. All DoDDS and DDESS schools are accredited.

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[3] DS Regulation 2010.1, Department of Defense Dependent Schools Accreditation Program, December 18, 1987.

[4] North Central Association, Commission on Schools, "Standards for Elementary, Middle Level, Secondary and Unit Schools, <Web site: www.nca.asu.edu>.

b. Framework Schools

Local education agencies throughout the United States are identifying low-performing schools and establishing widely varying programs to help them improve. In the fall of 1997 the former Director, DoDEA decided that low performing schools should be identified and tasked with improving their performance. DoDEA developed an indexed score for all schools based on test scores and identified those schools that were below 52%. The cutoff was based on funds available to provide resources to help those schools. There was no consultation with school superintendents. The 16 schools identified as Framework Schools were notified in June 1998. Letters were sent to superintendents, who were to notify principals, but this did not happen in all cases. In those locations where this was not done expeditiously or in a professional manner, identification of the school as a Framework School resulted in very negative feelings among educators and in the community.

Framework Site Team Leaders were sent to each school for a 2-year period. Their service to those schools terminated at the end of SY 99–00. The Site Team Leader conducted interviews with teachers and in the community, did classroom surveys, reviewed the SIP process, and assessed the school climate. Throughout the 2 years they provided professional development training on learning strategies, assessing student performance, etc. Children worked with computer programs that helped identify their individual strengths and weaknesses and provided worksheets for each child to improve in weak areas. Teachers were provided training in how to use data from the computer programs to structure instruction more effectively. At the end of 2 years the school was to assume the responsibility for continuing the work that had begun with the assistance of the Site Team Leader.

Criteria for success were not formally established, but the goal was to improve the top and bottom quartile test scores, narrow the gap between them, and thus demonstrate improved growth in student performance. Based on information provided from DoDEA, all Site Team Leaders reported that each school had made significant improvements in overall test scores. Site Team Leaders have been tasked to prepare a case study on each school that includes conclusions and recommendations. This information will be provided to all DoDDS and DDESS schools so they too can benefit from what was learned by those 16 Framework schools.

4. Conclusions

All schools have a SIP and identify specific focus areas based on DoDEA guidance. They are meeting the established objectives at the school level. The intended outcome of the SIP, improved student performance, would be more effective if each school developed its own SIP. The schools should tie the SIP to the Community Strategic Plan based on a local needs assessment. The plan should be monitored by the district superintendent to determine what assistance can be provided to help the school and to assess progress in each of the district's schools. An outside evaluation of the school provides an independent assessment of how well the school is meeting accreditation standards and the goals established in the school's SIP. DoDEA schools have done well in their evaluations.

The focus in Framework Schools is on improving test scores and teaching techniques. The process for notifying Framework School was poorly done and caused considerable resentment by stakeholders in those schools and communities. Once the schools began to take advantage of the increased resources provided to help them improve and the efforts of the Site Team Leaders, they focused on the positive benefits and began to see improvement. Other schools in those districts benefited as well from the professional development provided to them by the Site Team Leader.

5. Recommendations

DoDEA should permit schools to develop their own SIP based on a local needs assessment within the framework of the DoDEA CSP.

DoDEA should establish a formal coordinated program for identifying and helping low-performing schools.

C. STAFFING STANDARDS, PUPIL TEACHER RATIO, AND CLASS SIZE

1. Issue

Does enrollment based staffing limit course offerings in small schools? Is there adequate teacher staffing based on DoDEA staffing standards, pupil teacher ratios (PTR), and class size?

2. Summary of Interviews

The major concern about the staffing standards used to determine the number of teachers in a school is at the high school level. Military leaders and parents, primarily at small installations and schools, want DoDEA to use program-based staffing, rather than enrollment-based staffing, to determine the number of teachers. This would help ensure the same opportunity for students at small schools and large schools. They stated that DoDEA's use of enrollment-based staffing disadvantages students in the small schools, especially in terms of the electives available. Although all of the elementary schools offered art, music, talented and gifted (TAG), and PE programs, parents were concerned that the time allotted for these subjects varied from school to school, primarily depending on school size and staffing availability. All realized that program-based staffing would be more expensive than the current enrollment-based staffing because DoDEA would have to hire more teachers. However, they felt this was necessary to ensure an equitable and quality education to all children, who have no choice in where they go to school.

Some principals stated they were told the number and type of teachers they could hire, based on their projected enrollment, and that there was little flexibility to deviate from what was authorized by DoDEA Headquarters in order to accommodate local needs. Teachers in small schools, especially at the high school level are usually certified in multiple subjects. Some who taught two to three unrelated subjects thought it was difficult to prepare adequately for each class because of limited planning time.

At a few schools an additional teacher was hired after the start of the school year because of increased in enrollment. This causes concern among parents and educators when students are moved from one class to fill another, e.g. when a new 3rd grade teacher is added. It is hard for the student to adjust to a different teaching style; and there are concerns about how the decision is made to determine which students move. The principals and teachers indicated they go through a lengthy process to make the determination and try to involve the parents, but there is usually somebody who will be unhappy with the final decision. Some principals and superintendents explain to their School Advisory Committee or School Board how they determine staffing for the school year, and get input from those groups and concerned parents in the spring when the process begins.

When PTR was mentioned and discussed with different stakeholder groups, and with the same groups at different locations, there were many different understandings and explanations of how the PTR was computed and what "teachers" were included in that computation. A group of teachers at one school reported that the administration stated the PTR was 18:1 and the union stated that it was 26:1. The teachers did not know which was correct. Some school administrators stated they do not compute the PTR and only report enrollment figures up to DoDEA headquarters.

Many interviewed felt that the PTR was a misleading figure and that it did not accurately reflect the size of the classes in the school. The class size in the high schools depended on the courses taught and the size of the school. Parents cautioned that while they all favored the reduced class size in grades 1 through 3, they did not want to see any lowering of teacher quality when DoDEA hires additional teachers. Many parents and students stated that the class sizes in their schools were almost always less than in the schools they had attended in the States. Those schools were larger, and the individual classes were much larger. This was true at all school levels. They definitely prefer the smaller class sizes they have in DoDEA schools.

3. Analysis

The Director, DoDEA briefed the Dependent Education Council on June 2, 2000, that DoDEA was committed to developing a program-based staffing model. He reported that the most urgent requirement was to provide sufficient staffing to small secondary schools, thereby affording their students the same educational opportunities available to those in larger schools. DoDEA has established a conceptual model for conducting a staffing standards review, but the timeframe, estimated cost, and source of funding have not been identified.[5]

a. Staffing Standards

The staffing standards for the schools, by category of school, are approved annually by the Director, DoDEA based on the recommendations of the Education Division and Management Analysis Section, following reviews of what is done in U.S. school systems, changes in priorities, and educational research. Based on that approval, a staff authorization document is provided to each individual school that provides the number of Full Time Equivalents (FTE) (personnel) by category, e.g., classroom, TAG, ESL, host nation teachers, Special Education personnel, media specialists, counselors, assistant principals, and aides, that the school can employ. The numbers are based on the staffing standards and the projected enrollment for the school year, which is provided the previous spring by the school principals to DoDEA. The student enrollment is determined based on the student enrollment projected for September 30 using the previous year's data and any changes in the student population, determined in coordination with the military commanders, and based on troop strength changes, tour policy changes, etc. The September 30 date is used because, based on historical records, the highest enrollment occurs by the end of September. The high mobility rate in the DoDEA school system primarily affects the needs of individual students when they transfer into the system, and thus the types of teachers, more than the overall number of teachers. An analysis of DoDDS projections versus the actual enrollments for September 30, 1998, and September 30 , 1999 indicated that the projections were overstated by 2.4% and 0.1%, respectively. The 2.4% is an adjustment after excluding the Panama/Cuba district. Panama schools closed during SY 98–99 and projections were off significantly. Including their projections the enrollment was overstated by 3.0%. DoDDS by-grade projections for grades 1 through 12 on September 30, 1998, were overstated in all grades by 0.2% to 11.3%, except those for 1st grade were understated by 0.6%. Appendix F, table F-3, has detailed data on actual enrollments compared with projections. Data on DDESS was not available.

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[5] DoDEA Dependent Education Council follow-up issue from the November 1999 DEC, High School Staffing Standards Update.

Table VI-4 provides the staffing standards for regular classroom teachers. There are different standards for other teachers, e.g., ESL, TAG, music; other professional staff; school support staff; and services staff. There is a small school allowance that provides increased staffing for schools with fewer than 200 students in an elementary or middle school, and fewer than 260 students in a high school.

Table VI-4. DoDEA Classroom Teacher Staffing Standards

Grade	Full Time Equivalents per Students	
	DoDDS	DDESS
Sure Start	1 per 20 (w/ aide)	
Pre-kindergarten	1 per 18 (w/ aide)	1 per 18 (w/aide)
Kindergarten	1 per 24 (w/ aide)	1 per 24 w/ aide)
1 – 3	1 per 23	1 per 23
	1 per 18 by SY 04-05	1 per 18 by SY 04-05
4 – 6	1 per 25	1 per 23
7 - 8	1 per 23 (except when part of HS)	1 per 23
9 – 12	Based on enrollment	1 per 20
	8 for first 124 (7th-12th grade)	
	1 per 21 from 125-334	
	1 per 25 from 335 or more	

Source: DoDEA Staffing Standards, SY 00–01

The staffing standards for high school teachers result in similar numbers of teachers authorized for DoDDS and DDESS. Table VI-5 is a comparison of the number of teachers authorized for various enrollment levels.

Table VI-5. HS Teacher Staffing

Enrollment	Number of Teachers	
	DoDDS	DDESS
120	8	6
240	13.5	12
360	19	18
480	24	24
600	29	30

The staffing standards for DoDDS and DDESS are the same except for grades 4–6 and high school. Before the DDESS schools came under DoDEA, each DDESS district had its own staffing standard. The previous Director, DoDEA directed that they be standardized across DDESS, but that they did not have to be the same as DoDDS.

No national-level data or comparisons could be located on staffing standards. Staffing standards are usually established at the district or state level, or a combination. Table VI-6 provides the staffing ratios for the Fairfax County Public Schools, VA. They are higher than DoDEA staffing standards and result in fewer teachers for the same student enrollment.

Table VI-6. Fairfax County Public Schools Regular Staffing Ratio

Grades	Staffing Ratio
Kindergarten (max class size w/ asst.)	28
1–3	24.5 to 1
4–6	26.5 to 1
7–8 (core class average)	27.0 to 1
7–8 (non core class average)	28.0 to 1
9–12 (general education average)	28.0 to 1
9–12 (English class average)	24.0 to 1

Source: Fairfax County Public Schools Statistics, Web site: www.fcps.k12.va.us/about/stats.htm

b. Pupil Teacher Ratio (PTR)

The confusion about PTR during the interviews is understandable. According to the DoDEA MAS Manual, three different PTRs are calculated:

1. Classroom Teacher: The ratio of total enrollment to the number of classroom teachers.

2. Professional Staff: The ratio of total enrollment to the school's entire professional staff; that is, classroom teachers, specialists, and administrators.

3. Total Staff: The ratio of total enrollment to the entire school staff; that is, classroom teachers, other professionals, clerical, and other support staff.

PTR computations do not include any personnel above school level. The personnel included in each category are as follows:

1. Classroom teacher: pre-kindergarten, kindergarten, ES, MS, and secondary teachers; compensatory education, cooperative work experience, and vocational education teachers; ESL, TAG, and secondary level reading improvement and host nation teachers; and JROTC instructors.

2. Professional staff: classroom teachers, special education, elementary art, music, physical education, host nation, and reading improvement teachers, and driver education teachers, as well as other nonteaching professional staff, e.g., principals, counselors, nurses, and librarians.

3. Total staff: professional staff, aides, clerical personnel, vehicle operators, etc.

DoDEA calculates the PTR for each school and aggregates them up to district, area, and DoDEA level. Table VI-7 provides the PTR for each category, computed by DoDEA using September 30, 1999, data for each school. A review of all school PTRs indicates that smaller schools generally have lower PTRs than larger schools because a higher number of professional and support staff are provided to operate a larger school. The closest thing to reflecting average class size is the classroom teacher PTR, but because of the types of teachers included in that category, it will always be slightly lower than a school's average class size.

Table VI-7. Pupil Teacher Ratios

	Classroom Teachers	Professional Staff	Total Staff
Europe	17.4:1	12.1:1	10.0:1
Pacific	18.4:1	13.1:1	11.0:1
DoDDS	17.7:1	12.4:1	10.3:1
DDESS	17.2:1	11.8:1	9.4:1
DoDEA	17.5:1	12.2:1	10.0:1
Lowest	7.6:1	15.7:1	15.0:1
Highest	24.9:1	15.3:1	12.8:1

Source: DoDEA Management Analysis Section

The North Central Association, which accredits all DoDDS schools, states that the PTR that includes teachers and other staff professionals should not exceed 25:1. MS and HS teachers teaching courses should have no more than 170 students in all periods taught.[6]

c. Class Size

The staffing standards at the elementary and middle school levels can be equated to class size. There is no requirement that states if a class exceeds that standard, another teacher must be provided; that is, classes are not capped. The administrators have the flexibility to make the decision when to request permission to hire another teacher. At the high school level there are no published guidelines on what the minimum or maximum class size should be. In order to ensure students can meet the DoDEA graduation requirements, a school must offer the requisite courses. Based on educator interviews, it appears that, for elective courses, the schools will usually use between 5 and 10 students as the minimum enrollment necessary to teach a class. That is further qualified by the need to stay within the total FTE authorization and have a qualified teacher available. As mentioned previously, schools having teachers qualified to teach multiple subjects also facilitate this capability. Sometimes students taking different courses may be combined and taught by one teacher, e.g., students taking Honors English and AP English may be in the same class. Other options are to make special arrangements with a qualified teacher, or when the course is available, take it through distance learning.

An analysis of ES class size was done utilizing data provided by DoDEA. It reflected class sizes on September 30, 1999, and included the class size for every full-time classroom teacher, excluding three DoDDS districts—Kaiserslautern, Heidelberg, and Hessen—and DDESS. The data for the three DoDDS districts and DDESS were not available electronically because of their conversion to WinSchool, a school management information system. Paper copies of class sizes for most schools in DDESS were provided, but time did not allow for analysis. The data for 1,780 classes was reviewed. After eliminating class sizes that were assumed to be erroneous (98 with only 1 student, 20 of 47 with 2 to 3 students, and 9 with 38 to 93 students), the remaining 1,653 classes were analyzed to determine how many classrooms met or exceeded staffing standards. The staffing standards were used as the maximum class size. For grades 1–3, the class size used was 23 since SY 99–00 was the first year DoDEA began implementation of the 18:1 staffing standard. Table VI-8 is a summary of the results. Appendix F, table F-4, contains detailed information on ES class sizes.

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[6] North Central Association, Elementary, Middle, Secondary, and Unit Standards and Criteria, Resources and Allocation. Web site: http://www.nca.asu.edu/standards/emsu/ra.htm>.

Table VI-8. Class Size Analysis for DoDDS Elementary Schools

	SS-K	Grade 1–3	Grade 4-6	Total
Total no. of classes	345	724	584	1,653
No. that met standard	277	540	446	1,263
% that met standard	80.3%	74.6%	76.4%	76.4%
No. that exceeded standard	68	184	138	390
No. exceeded by 1-3 students	53	158	120	331
No. exceeded by:	4–6 students: 15	4–5 students: 26	4–7 students: 18	59

Note: One grade 3 class had 35 students
Source: DoDEA School Enrollment Figures, September 30, 1999

For those 46 schools that had implemented the new staffing standard of 18:1 at the beginning of SY 99–00, further analysis of the class size was done for grades 1-3. Of the 46 schools, 14 schools met the standard, 21 did not meet the standard, and there was no data available for 11 of the schools. In the 21 schools that did not meet the standard, 134 classrooms met the standard, 90 classrooms had 19 to 21 students, and 11 had 22 to 23 students. Appendix F, table F-5, contains details of class size for those schools implementing the reduced class size. Although many classrooms in both analyses exceeded the standard, they were well spread between schools and grades. It appears that reasonable effort was made to attain the reduced size. If a school with only two grade 2 classes with enrollments of 19 and 20 added a third teacher, the class size for each would have been 13. This would have been good for the students but difficult to justify from a personnel hiring and student turbulence standpoint.

An analysis of class sizes for middle school and high school courses was also done for the same DoDDS school districts as was done for the elementary schools. There were 47 schools and 10,250 sections. A section reflects the student enrollment in one section of a course, e.g., 14 students enrolled in Section 4 of Biology I at AFCENT High School. The data was assumed to be representative of the entire DoDEA population. The focus of the analysis is primarily on academic courses, which included 8,977 sections, and did not include courses identified as homeroom, advisory, staff assistant, seminar, or study hall. The sections analyzed had from 1 to 85 students and included students enrolled in a regular class or a distance learning class. For a few sections that had a small number of students (of 1,607 sections, 15.6% had 1 or 2 students), it is possible that 1) they were combined in one period, e.g., Honors English and AP English were taught together by one teacher; 2) they were independent study courses; or 3) they were distance learning courses. The number of these occurrences was not analyzed. It was assumed that the combinations did not result in a large class but, rather, allowed the school to offer more course options. There were only 56 sections with more than 35 students. All of those were band, instrumental music, chorus, or physical education classes, with the exception of one MS Art class (38 students) and one 10th grade Honors English class (36 students). Table VI-9 is a summary of the class size by major subject areas. Appendix F, table F-6, contains a detailed analysis of each major subject area by class size.

Table VI-9. Class Size Analysis of DoDDS Middle/High Schools

Class Size	1–25	26–30	31–35	36 +	Total
# Sections	7,919	873	129	56	8,977
Percentage	88.2%	9.7%	1.4%	0.6%	100%

According to the NCES, class sizes vary significantly from state to state. In SY 93–94 the average class size for elementary and secondary schools was 24 students, but the range was from 19.2 to 29.3 in elementary schools and 18.5 to 29.7 in secondary schools. The pupil teacher ratio in all public schools was 17:1. NCES points out that the average class size is larger than the PTR because resource teachers such as art and physical education do not have their own classes, and special education teachers have classes that are much smaller than regular classes.[7] Based on their description, it is likely that each school district and/or state categorizes teachers slightly differently when computing a PTR.

The NAEP, in addition to providing test results, provides data based on responses to survey questions. Appendix F, table F-7, contains detailed data on the average percentage of grade 4 and 8 reading classes in a state with 25 or fewer students. Data are presented for 36 states, the District of Columbia, DoDDS and DDESS. In grade 4, the percentage of classes in a state with 25 or fewer students ranges from 98% to 21%. DDESS has 89%, DoDDS has 75%, and the national average is 64%. Counting the District of Columbia as a state, there are 8 states with a higher percentage of classes than DDESS and 20 states with a higher percentage than DDESS out of the 37 states listed. There are 29 states with a lower percentage than DDESS and 17 states with a lower percentage than DoDDS.

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[7] NCES, Schools and Staffing Survey, 1993-94 (Public School Teacher Questionnaire). This is the most current data available from the NCES.

In grade 8, the percentage of classes in a state with 25 or fewer students ranges from 95% to 19%. DDESS has 95%, DoDDS has 82%, and the national average is 57%. Counting the District of Columbia as a state, there are no states with a higher percentage of classes than DDESS and 3 states with a higher percentage than DoDDS out of the 36 states listed. There are 36 states with a lower percentage than DDESS and 23 states with a lower percentage than DoDDS.

. Conclusions

A program-based staffing model will help ensure that students in all DoDEA schools, regardless of size, receive the same educational opportunities.

The staffing standards established by DoDEA appear to provide an adequate number of teachers in the larger schools. The impact of the staffing standards on the small schools, even with a small school allowance, limits the amount of time or number of days that noncore courses, e.g., music, art, and physical education, are offered in the elementary schools. It also limits course offerings at the middle school and high school level. DoDEA tries to solve this problem by consolidating courses in one class with one teacher, or by allowing students to 1) take a course by distance learning, if available; 2) take a course as an independent study; or 3) take college courses, if qualified, at the installation education center. Staffing standards differ between DoDDS and DDESS in grades 4–6 and high school, for no apparent reason. If DoDEA is able to resource a lower standard at the grade 4–6 level in DDESS, which results in more teachers, it should be consistent in the application of the standard to both DoDDS and DDESS schools.

It is difficult to compare PTR because of definitional problems. However, the DoDEA "classroom teacher" PTR is consistent with the national average, and the "professional staff" PTR is lower.

Class size has a definite impact on the quality of education and the ability of the teacher to ensure that all students are receiving and comprehending the material presented. The class size analysis indicates that more than 75% of the elementary school classes met established DoDEA standards and 88% of the middle school and high school classes had 25 or less students. These results compare favorably with those for states and school districts. Although many classes exceeded the class size standards, they were well spread between grades and schools. Administrators were doing their best to avoid large classes while remaining within their established staffing standards. If a problem occurred, principals sought increased staffing.

5. Recommendations

DoDEA should expedite the development of their program-based staffing model and determine the increased funding required for implementation.

OSD should provide additional funds to support program-based staffing once requirements are identified.

D. TECHNOLOGY

1. Issue

Does the availability and use of technology in DoDEA enhance student performance and provide accessibility to equivalent educational opportunities throughout the DoDEA school system?

2. Summary of Interviews

There was consensus among all stakeholder groups interviewed that the availability of computers in the schools was much better than it was in school districts adjacent to DDESS districts and in school districts that students had been in before attending a DoDDS school. There were more computers available in computer labs, media centers and the classrooms. In many classrooms there were computers for both the teacher and the students to use. While all schools had access to the Internet, it was limited in many cases to only one or a few computers because not all schools had been completely wired for a Local Area Network (LAN). Access to the Internet at most schools was slow. There was concern that in several schools they had some software and hardware that were not compatible; therefore the software was not effective for instructional use. When software was compatible, some teachers commented that it did not always support the curriculum. The students also mentioned that some of the software was out of date and that they had more current software at home.

Knowledge about and use of computers varied among the teachers interviewed, as did their use of computers to support instruction. Some were self-taught, some had taken computer courses on their own, some had received training during in-service training or in a professional development course, and some had received help from the district or school Educational Technologist (ET). In some locations either there were too few ETs or those available had to spend some of their time, if they had the expertise, assisting the Administrative Technologists (AT) with their duties, such as fixing systems that were not working properly. The students mentioned that not all teachers knew how to use the computer and that sometimes the students had to help them. They said there are other teachers who take advantage of the computer to enhance the instruction, e.g., teachers download current information from the Internet to help in social studies and science instruction. Some teachers are now starting to require students to do some of their work on the computer. In one elementary school students learn how to make PowerPoint briefings in the 4th grade and use Excel spreadsheets in the 5th grade.

All of the schools are shifting over to a school information management system called WinSchool. Teachers were having a difficult time learning how to use the new system to track attendance, record grades, etc. They have also switched over to Microsoft Outlook for their email system. For the schools that did not have a complete LAN it was more difficult because teachers had to locate a computer where they could enter data and send and receive email. The parents and military were very supportive of those administrators and teachers who used email to keep them informed. Teachers also supported the use of email to communicate with parents.

Some military leaders stated that their units had donated excess computers to the local school, and others were told that the school could not accept them. The school administrators where the computers were not accepted stated that they were concerned about not having any maintenance support for the donated computers. Some were also concerned that this might reduce the number of new computers they were scheduled to receive from DoDEA. The new computers were the latest Pentium computers and came with a maintenance contract.

3. Analysis

In February 1996, President Clinton announced the Technology Literacy Challenge and the desire that all students benefit from the use of educational technology. He stated four goals:

- All teachers in the nation will have the training and support they need to help students learn using computers and the information superhighway.
- All teachers and students will have modern multimedia computers in their classrooms.
- Every classroom will be connected to the information superhighway.
- Effective software and on-line learning resources will be an integral part of every school's curriculum.

The U.S. Department of Education refers to technological literacy as more than knowing how to use technology for word processing, spreadsheets, and Internet access. It is taking advantage of the opportunities afforded by technology to increase learning in academic subjects and increase students' skills. DoDEA has a Technology Plan that provides technology goals, describes the technology requirements, evaluates the current status, and provides funding priorities and estimates. It is a coordinated effort by DoDEA to meet the President's challenge.[8]

DoDEA has developed a "Professional Development Plan for Teacher Competency in Technology." It identifies levels of professional development (awareness, skill/concept development, and application) for all teachers in a multitude of competencies. The ETs provide the teachers training in the technology competencies and help them to effectively use technology to support the curriculum. The two major limitations in providing training on how to effectively use technology to all teachers are time and funding. The time currently available for in-service training and professional development is limited and faces competing demands for training in other areas, e.g., implementation of new curriculums. Some studies indicate that the cost for professional development and ongoing support to effectively implement technology should be about 35% to 40% of the technology budget. DoDEA's funding target of 30% allocated for professional development will require $5 million per year.

There is one ET authorized for every school in DDESS and one for every 800 students on a districtwide basis in DoDDS.[9] The staffing guideline of one ET per school in DDESS allows greater and more readily available support to teachers than the DoDDS guideline of one ET for each 800 students in the district. That staffing requires that most ETs provide service to more than one school, and if they are on different installations, considerable time is lost in commuting between schools. Based on the SY 99–00 student enrollment, if the staffing in DoDDS were changed to one ET per school, an additional 60 ETs would be required (54 in Europe and 6 in the Pacific). To ensure that the ET can perform the necessary duties and responsibilities, DoDEA must ensure that all AT positions are also filled. The ATs are necessary to provide the administrative technical support for LANs, Microsoft Office, email, WinSchool, etc. The DoDEA staffing standards authorize a number of ATs "as authorized by the district" in DoDDS, and one per 800 students on a districtwide basis in DDESS (43 ATs). To augment ATs, some DDESS schools have a full-time computer technician who can handle the less technically demanding support issues. DoDEA concluded that the current staffing for ETs and ATs is not adequate to provide support due to the increasing number of computers in the schools. This is consistent with other LEA such as Fairfax County, VA, that is attempting to get enough funding to have one ET for every two schools starting in SY 00–01, and one in every school within 3 years.[10]

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[8] DoDEA Technology Program Office, DoDEA Technology Plan, December 1999.

[9] DoDEA Staffing Standards, SY 00-01.

Providing adequate computers in terms of numbers and capability, as well as access to the Internet, are standard measures of assessment. According to the President's Committee of Advisors on Science and Technology, four to five students per computer is the ratio that many studies suggest as a reasonable level for the effective use of computers in a school.[11] An instructional multimedia computer is currently defined as a 486 equivalent or higher computer to which students have access in the classrooms, computer labs, or media centers. As of May 2000 the ratio of students per instructional multimedia computer was 4.3:1 in DoDEA, 4.8:1 in DoDDS, and 3.5:1 in DDESS. A Market Data Retrieval (MDR) survey during AY 98–99 indicates the national average ratio for all states is 9.8:1. The highest is 14.8:1 and the lowest is 6.9:1.[12] The Fairfax County, VA, schools ratio is 5:1 and the Montgomery County, MD, schools ratio is 4:1, according to data provided to the DoDEA Technology Program Office by the respective Directors of Technology in January 2000. The DoDEA Technology Steering Committee has decided to change the criteria for an instructional multimedia computer to one that is at least a Pentium or equivalent. This will raise future ratios but appears to be logical in terms of the limitations that the 486 computers are beginning to have in supporting current software.

The Technology Plan has an instructional computer allocation table that states a requirement for computers in each school. It provides one computer for every teacher, one classroom computer for every four students, 12 computers in each media center, and a specified number of computers in computer labs. The number of computers in a computer lab is based on the type of school and the enrollment. In an elementary school with fewer than 200 students there is a lab with 25 computers. In all other schools there are 2 to 7 labs with 30 to 123 computers. This allocation does not include the requirements for administrative use computers at school level and above. If the stated requirements are attained, the ratio of students per instructional multimedia computer will be 2:1, an unstated goal in the plan. The plan does not provide guidance on the number of peripherals, e.g., printers and scanners that should be in a school.

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[10] "Fairfax Schools Seek More Computer Technicians," *The Washington Post*, January 14, 2000.

[11] Department of Education, NCES, Internet Access in U.S. Public Schools and Classrooms: 1994–99, February 2000.

[12] Market Data Retrieval, Technology in Education 1999, 1999.

The criterion for stating that a school is connected to the Internet is that at least one computer at the school is connected to the Internet. In 1999, 95% of all public schools were connected to the Internet and 63% of instructional rooms had access to the Internet.[13] In DoDEA; Fairfax County, VA; and Montgomery County, MD 100% of the schools had access to the Internet. School districts have worked very hard to connect every computer in a school to the Internet through the use of a LAN. DoDEA tracks the number of school wide LANs. As of May 2000, there were 131 schools with schoolwide LANs installed, 30 schools funded to have the LAN completed, and 61 schools not yet funded for LAN completion (25 in DoDDS-Europe and 36 in DDESS). In those schools with incomplete LANs there is usually more than one computer connected to the Internet. In Fairfax County and Montgomery County, 100% of the schools have complete LANs.[14]

An important consideration related to the Internet, in addition to the number of computers that access it, is the speed of that access. There is no data available on what is the proper amount of bandwidth necessary to support educational needs. DoDEA states that the average speed of Internet access in the DoDEA schools is 64 Kbps, which explains why teachers and students complained about slow access, lengthy downloading time, etc. A few schools still access the Internet via a telephone line at 56 Kbps. The more students who use computers to access the Internet simultaneously, such as when a class goes to the computer lab to do research on the Internet, the more time will be spent accessing the Internet and less time actually doing constructive work. The same problems will arise when more students take courses via distance learning. An ISDN line supports data transfer rates of 64 Kbps. Increased bandwidth can be provided by a T-1 line at 1.544 Mbps, which is 24 times faster than an ISDN line at 64 Kbps. DoDEA estimates that to provide T-1 connectivity for each school would cost $66 million.

DoDEA has included a review and selection of curriculum related courseware as part of their six-year curriculum review cycle. To try and preclude the problems of incompatible software and hardware, a member of the Instructional Technology Division participates in these reviews to help ensure compatibility. Because of the different computers used throughout the school system this is not always 100% possible.

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[13] Department of Education, NCES, Internet Access in U.S. Public Schools and Classrooms.

[14] DoDEA Technology Program Office, DoDEA Technology Plan.

In addition to these efforts that support the goals outlined by President Clinton, DoDEA has also set a priority on ensuring that there are appropriate systems to support the day-to-day operations of the school and the reporting of information throughout the school system. The schools districts are in various stages of their conversion to the WinSchool school information management system. They completed conversion to Outlook for email in December 1999.

In addition to the work performed by ETs and ATs, DoDEA also has separate maintenance contracts for DoDEA Headquarters, DoDDS-Europe, and DoDDS-Pacific. Each DDESS district has its own contract to repair computers. Although there is a 4.3:1 ratio for students to computers, there is no data available at DoDEA Headquarters on the number of computers that are not working properly, or at all. During interviews it was noted that in some schools several of the computers were inoperative for some period of time.

The DoDEA criteria for donated computers is that they must meet the DoDEA criteria established for administrative use or educational purposes in accordance with the Educational Technology Plan."[15] According to the Technology Program Office, those criteria are that the computer must be Y2K compliant and a 486 or above. If the donated computers are 486s or equivalent, this does not count against the computer inventory in that school and does not affect the quantity of Pentium computers it will receive. The manual states that "donated property will not be considered in computing the totals for minimum basis of issue." If a computer is accepted as an approved curriculum or administrative requirement meeting a valid and authorized administrative or educational objective, it can be repaired and maintained at DoDEA expense with appropriated funds. "If the computer is on a hand receipt, it can be repaired at government expense using a DoDEA maintenance support contract."

In addition to using computers to facilitate classroom instruction, DoDEA uses computers for students taking courses through distance learning. This is provided when there are not enough students to justify a classroom teacher. Currently, 16 courses (7 AP courses and 9 regular courses) are taught through distance learning. Distance learning is discussed in more detail in another section of the report.

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[15] DoDEA Manual 4100.2, Material Management Manual, August 28, 1997.

Many schools now have Web sites that provide information to parents and students about school policies, activities, curriculum, etc. Within DoDEA 92% of the 224 schools have a Web site. A review of many school Web sites indicates that most contain information of interest to incoming students as well as students already enrolled. There are 10 schools in DoDDS and 9 schools in DDESS currently without a Web site. The DoDEA headquarters, area headquarters, and all district offices except three in DDESS also have Web sites.[16] The MDR Survey shows that nationally 54.1% of the schools have Web sites, with a range among the states from 75.7% to 31.56%.

The DoDEA Community Strategic Plan has two benchmarks that address technology. Benchmark 3.10 states that "by the year 2000, all students in grades 4, 8, and 11 will demonstrate technological proficiency within the curriculum as measured by an electronic portfolio assessment." It was not listed as a DoDDS priority benchmark, but it was for DDESS. There were no standards for portfolio assessment established and no evaluation of the benchmark was done by DoDEA.

Benchmark 10.8 states that "by the year 2000, DoDEA will establish and evaluate the use of technology to support the improvement of (a) instruction, (b) fiscal and equipment resource management, (c) record keeping and (d) accountability throughout the system as measured by the installation of appropriate hardware and information systems in every DoDEA school in accordance with the DoDEA Technology Plan." DoDEA is providing technology training for the teachers and is training teams to train other teachers. Courses are being offered by distance learning in some locations, and teachers have the opportunity to attend technology training courses during the summer.

DoDEA has evaluated neither the effectiveness of the teacher's integration of technology into the curriculum nor student performance to determine if it improved as a result of the use of technology either by the teachers or the students. The Technology Program Office does track the distribution and allocation of computers, and funding for computers, to ensure a cross leveling of computers across the districts. The District

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[16] DoDEA Communications Division, March 2000.

Superintendents were given the responsibility to level computers within their districts. There was no data in the CSP Status Report to indicate how well they were doing in this cross leveling.

All schools are converting over to the WinSchool information management system. Training on how to use it is ongoing; thus, it is too early to evaluate the success of the conversion. Not all data requested for analysis in this study was readily available because of the conversions. If a district is still using the School Information Management System (SIMS), the data was available electronically. It was more difficult to get data on districts that had made the conversion. The DoDEA personnel office has developed some very innovative programs that will save time and money and improve efficiency in processing personnel actions submitted by educators in the field. They have not completely merged the personnel data bases used for DoDDS and DDESS personnel, so some data requested about teachers was also more difficult to obtain.

4. Conclusions

Providing technology to support student learning and facilitate school operations has been a high priority in DoDEA. There are plans to continue teacher training to increase the number of and cross-level Pentium computers in all schools, and to complete installation of LANs. Some teachers are using computers to support instruction, but more training needs to be done to take advantage of the huge capital investment in technology. Students and teachers can access the Internet, but without increased bandwidth provided to the schools, too much instructional time may be wasted on nonessential tasks. Technology has enabled courses to be offered, through distance learning, to students who otherwise might not have been able to take them. School Web sites and email between parents and teachers are improving communications and the dissemination of information. Although many computers are provided and used in the schools, there has been no evaluation to assess their effectiveness in improving student achievement, or the ability of teachers to effectively use computer technology in their instruction. The military communities may donate computers to the schools if they meet the DoDEA criteria.

5. Recommendations

DoDEA should evaluate how effectively teachers utilize computers to support instruction and assess how well technology contributes to student achievement.

OSD should provide additional funding to complete LAN installations and begin increasing bandwidth to support greater use of the Internet and more distance learning.

DoDEA should review its plan to provide instructional media computers for students at a ratio of 2:1 and determine if the increased cost can be justified.

E. FACILITIES AND MAINTENANCE

1. Issue

Does DoDEA have adequate funding for school construction, repair, and maintenance?

2. Summary of Interviews

Parents stated that if they walk into a school and see deplorable conditions they have a first impression that the school is bad and nobody cares. Many schools are in old buildings that are in need of major renovations or replacement. Some military leaders in the Pacific stated that the biggest issue is the condition of the facilities. Military leaders stated that DoDEA needs to coordinate with the installations and stay abreast of changes in military personnel strengths that will impact the schools. Timing should be consistent with military construction plans. Many noted that success in implementing full-day kindergarten and reduced PTR hinges on ensuring that funds are available for renovation and/or new construction. In addition to repair and maintenance contracts, the principals use help from parent volunteers and the Adopt-a-School unit personnel for minor projects.

3. Analysis

The condition of the schools varied considerably at the different locations visited. The average age of schools in the United States is 42 years old. In DoDEA 39.8% of schools have been built since 1970, and in the United States 27% of schools are in this category. In DoDEA 3.8% of schools are more than 50 years old, and in the U.S. 28% of schools are that age.[17] DoDEA budgets for new construction and the repair and maintenance of existing facilities (table VI-10).

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[17] DoDEA Facilities Management Program briefing, June 2, 2000.

Table VI-10. FY 2000 Construction and Facilities Repair & Maintenance Funding

	Construction	Repair & Maint.
DoDEA Hq	$5.3M	$451K
DoDDS-Europe	$24.6M	$18.9M
DoDDS-Pacific		$9.1M
DoDDS-Americas		$749K
DDESS	$52.4M	$15.9M
Total	$82.3M	$45.2M
% of DoDEA budget	6.3%	3.4%

*For school design
Source: DoDEA Budget Book, FY 2000

Funds allocated for construction have varied significantly over the years. In 1985 DoDEA received $156M and in 1998 it received none. The average from 1985 to 2000 was $20.3M for DoDDS and $13.9M for DDESS. Budgeting for repair and maintenance is based on a percentage of plant replacement value (PRV). The standard for DoD is 2.5%; for industry, 4.0%. The Services and DoDEA are usually funded at something less than the PRV standard, although it may meet or exceed the standard if year-end funds become available. DoDEA submits a budget for a 2.5% level of PRV funding. Repair and maintenance funds are sometimes used to pay for other expenses that may have been unforeseen. For example, $6.3M of FY2000 repair and maintenance funds were used to fund some of the costs associated with an accelerated implementation of full-day kindergarten and reduced PTR, hiring additional counselors and psychologists, and the implementation of the DDESS Master Labor Agreement.

In June 1996 the Government Accounting Office estimated that U.S. public schools needed $112B for repair and updating.[18] In May 2000 the NEA estimated that $268B was needed to repair and modernize U.S. public schools.[19] The primary difference in estimates is because the NEA tried to include costs for construction of new schools to accommodate the increasing school age population. Both provided data at the state level, but based on the data provided there was no way to effectively compare the needs in the States with the needs in DoDEA. DoDEA has developed an integrated construction priority list for all projects in DoDDS and DDESS. The current list includes 50 projects ranging in cost from $800K to $50M and averaging $9.3M. DoDEA has also developed a 5-year plan for identifying repair and maintenance requirements, prioritizing them and separating projects by fiscal year based on the availability of funds, and coordinating the plans at all levels.

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[18] U.S. General Accounting Office, "School Facilities: Profiles of School Condition by State," June 1996.

[19] National Education Association, "Modernizing Our Schools, What Will It Cost?," May 3, 2000.

4. Conclusions

Good facilities are an important element in creating an atmosphere that is conducive to good learning. The average age of DoDEA schools is lower than the national average. DoDEA is spending 9.7% of its budget for construction and the repair and maintenance of facilities. The integration and prioritization of projects between DoDDS and DDESS, as well as coordination at the installation level, should ensure that the most important problems are addressed first. DoDEA will have to continue to fight for funds in the budget process, but support of the Services and commands in which the schools are located will help.

5. Recommendations

OSD should fund DoDEA at 2.5% of PRV (the current DoD standard) for repair and maintenance of facilities.

DoDEA should have a formal approval process involving OSD and stakeholders before diverting funds from the repair and maintenance of facilities account.

VII. DODEA MANAGEMENT AND RELATIONSHIPS

A. DODEA HEADQUARTERS OPERATIONS

1. Issue

Does DoDEA headquarters provide proper and adequate support to the educators and other stakeholders?

2. Summary of Interviews

There was considerable frustration expressed by each stakeholder group about the DoDEA headquarters operations, leadership, and management practices, particularly at the highest levels. The top-down, bureaucratic, centralized management style was seen as ineffective. Administrators felt that they were not allowed to do their jobs because too much authority had been withdrawn. Too many decisions had to be made at DoDEA headquarters. There was too much specific guidance with little flexibility allowed at lower levels. Input from the field was infrequently requested. Decisions and policies were made with little advance notice or explanation, causing administrators to try and explain something they did not understand to teachers and other stakeholders. The DoDEA leaders and staff were not responsive to field requests. Several teachers expressed concern that they did not understand much about how DoDEA worked above school level, but they would like to know. Stakeholders expressed a lack of confidence and trust in the DoDEA leadership.

Many thought that DoDEA had a Eurocentric focus to the detriment of DoDDS-Pacific and DDESS. Stakeholders in every group stated that there should be more commonality and standardization between DoDDS and DDESS where it is appropriate. DDESS educators stated that many DoDEA decisions have been based on DoDDS and that DDESS has been an afterthought. DDESS has not been adequately represented on task forces. DDESS educators thought they had many good programs that could be implemented in DoDDS, but it seemed that DoDEA was always trying to force a DoDDS program on DDESS without considering advantages or disadvantages. DDESS educators would like to see more visits by DoDEA HQ leaders and staff. They felt that most of the communications about DoDEA, e.g., videos and news articles, focused on DoDDS.

Educators stated that DoDEA was trying to implement too many new programs all at once. There were no priorities and implementing guidance was insufficient. There was not enough time to implement them all well. Some programs were changed or canceled before they could be adequately evaluated and new programs put in place. Parents and teachers stated that the ultimate losers in all of these actions were the children.

Administrators stated there were too many uncoordinated requests for information, often with short deadlines, followed by requests for additional information, because someone was not really sure what they wanted. This took administrators away from their primary duty as educational leaders in their districts or schools and hindered their ability to adequately supervise the teachers and monitor educational programs. Educators thought that many policy and program changes from DoDEA were the result of "knee-jerk" reactions to requests or complaints from military leaders and parents. The problem was not so much the change as it was lack of consultation or analysis before deciding the best way to proceed.

Educators were especially critical of the DoDEA Education Division and DoDEA Personnel Center. The primary complaint about the Education Division was an absence of strong leadership that results in dysfunctional operations. They stated that this had been a problem for some time. Curriculum programs suffered from a lack of leadership and organization. This caused educators, parents, and military leaders to wonder if DoDEA had lost the focus on their primary mission—providing a quality education to children.

The educators complained about the length of time the Personnel Center took to process actions like requests for certification and pay problems. Teachers resented the long delays and lack of response to requests. They would try to work through the local personnel representative in the district office, but when they could not get an issue resolved they would call the Personnel Center. They found it difficult to communicate with clerks about a request. When a teacher called, he/she would usually only get a voicemail and no return call. The time zone changes hindered the process even more.

All stakeholders expressed hope that the Interim Director, DoDEA would provide a more positive leadership climate and decentralize some of the operations, as would his successor when a permanent Director, DoDEA is hired. As interviews continued during

SY 99–00 stakeholders began to express more positive feelings about the new leadership and changes occurring in the DoDEA headquarters.

3. Analysis

Under OSD tasking, IDA is conducting separate reviews of DoDEA headquarters management and DoDEA personnel management. Those reviews will address in detail many of the issues addressed above and other issues, but it was deemed important to include the information in the summary of interviews because of the degree to which many stakeholders expressed these concerns.

A return to decentralization of some operations was started at the beginning of SY 99–00. Deputy Directors, DoDEA for DoDDS-Europe and DoDDS-Pacific were given responsibility to oversee the operation of the Area Service Centers. Under the previous Director, DoDEA they had been placed under the control of the Associate Director of Management at DoDEA headquarters.

The former Associate Director, Education for DoDEA served from July 1998 to February 2000. He stopped performing his functions in the fall 1999. The acting Associate Director was formerly the Acting Deputy Director for Curriculum and is now the Deputy Director, DoDEA for DDESS. The Associate Director, Education position has not been advertised through OPM since the departure of the former Associate Director, Education.

At each school district in DoDDS there is a Customer Service Representative (CSR) to handle pay issues and a Personnel Service Representative (PSR) to handle personnel issues. The representative is the interface between the educator in the field and the Personnel Center. The Personnel Center is implementing more automated procedures and trying to clear the backlog of personnel and pay problems. There are several different data bases, but they are not all linked together. Processing travel orders was once a major problem for teachers, but the system was automated and the processing time for documents is now 3.7 days.

As discussed in other sections of this report, DDESS and DoDDS have many programs, policies, and procedures that are different. Some should be different and some have been or are in the process of being integrated or standardized. This report has noted where additional standardization should be done or evaluated.

4. Conclusions

The DoDEA leadership is regaining the trust and confidence of the stakeholders. It will take time and continuous effort, but it can and must be done. Actions coming from DoDEA headquarters should be thoroughly staffed and coordinated. Decentralization should have a positive impact on the organization. Administrators must be given the authority commensurate with their responsibilities. Superiors must expect and have confidence that subordinates will perform in an outstanding manner. Military leaders and parents have an expectation that the principals are responsible for running their schools and that they can provide answers, or get answers, to questions or concerns in a reasonable length of time. The DoDEA headquarters personnel must understand that they exist to support the educators in the field and should be responsive to their needs. They need to understand the impact of their decisions or actions on those individuals. It is critical that DoDEA hire an Associate Director, Education as soon as possible who can instill confidence in the educators and parents that education programs will be comprehensive and support the DoDEA goals and Community Strategic Plan. Implementing automated personnel actions and eliminating the backlog of personnel and pay inquiries should improve teacher morale and allow teachers to focus their attention on teaching.

5. Recommendations

DoDEA should reestablish the importance of curriculum and instruction and hire an Associate Director, Education as soon as possible.

B. MILITARY – DODEA RELATIONSHIP

1. Concern

Is there effective communication between DoDEA and military leaders?

2. Summary of Interviews

Although military leaders at all levels expressed concern about the relationship between them and DoDEA, both groups are committed to correcting the situation. In spite of the past relationships, much progress had been made in the past 12 to 18 months between military leaders, parents, and school administrators. The military has renewed its emphasis on being involved in educational issues that affect the children of their military families, as well as the children of DoD civilian families stationed overseas. Most people agreed that the support and emphasis on education is essential and that when the commander makes it a priority, positive things will happen. Through encouragement by the military, parental involvement has increased. Principals are more attentive to the concerns of the military and parents. All stakeholder groups throughout DoDDS and DDESS indicated there was a greater sense of partnership and improved communication. The military commanders and school administrators agreed that they needed to establish good working relationships and keep each other informed. It seems that most of the problems had developed in Europe and between the senior military leaders and DoDEA headquarters leaders. There was less concern and more satisfaction with the relationship in the preceding years on installations in DoDDS-Pacific, and DDESS. The partnerships, where they had deteriorated, were being reestablished at each level: installation commander and school principals, senior commanders and school superintendents, and Component and Unified Commanders and the Director, DoDEA and Deputy Directors for DoDDS-Europe, DoDDS-Pacific and DDESS. Military leaders and administrators agreed that most problems, issues, and concerns should be addressed and could be solved at the school/installation level.

Military commanders also assist with school discipline. Installation commanders can take actions in serious disciplinary cases, but many felt hampered by the lack of a range of punishments that can be meted out when necessary. Serious infractions can result in the family member being returned to the United States, or in DDESS, being barred from the installation. There was not much the military commander could do for minor infractions except counsel the military member. Many teachers and administrators know and appreciate that they can use the military chain of command and call a unit commander or first sergeant if they need help in getting a military parent to assist with their child's education. They also realize this can cause problems for the military member, so they do it only when absolutely necessary.

3. Analysis

The various levels of advisory committees, councils, and school boards are beginning to function as they were designed. (This issue is discussed in more detail later in the report.) With heightened interest and improved relationships, individuals know that their issues will be heard and that action will be taken. Where this does not occur, the chain of command, both military and education, can ensure that it does happen. For example, in Europe there is a direct link from the Army's Base Support Battalion (BSB) Commander, who oversees the Installation Advisory Committee (IAC), to the Area Support Group (ASG) Commander, to the Deputy Commanding General (DCG), U.S. Army Europe (USAREUR) to resolve support issues affecting one or several schools. The other services and other locations have similar structures. There is a sense that the education chain of command from the classroom teacher to the Director, DoDEA has been strengthened and is more effective now. In addition to more effective chains of command, the military services were in the process of hiring full-time school liaison officers at most installations. Their primary function is to be a liaison and facilitator between the schools, the installation commander, the military community, and the parents.

On many installations throughout DoDDS and DDESS the military units have initiated an Adopt-a-School or Adopt-A-Class/Grade program in coordination with the school administrators. The programs vary in what they do at the school but include such things as tutoring, mentoring, providing static military displays, sharing experiences with and giving lectures to the students, and assisting in maintenance. The support provided also varies due to the types of units that are at the installation and their deployment and training schedules. Many of the military personnel who come to the school as part of the program are single with no children in the school. The students appreciate having the soldiers in the school, and the teachers and principals noted that they served as excellent role models for the students. It was noted that some of the programs were initiated and enthusiastically supported during the first year, but the support decreased over time. Reasons for this included lack of support by the commander and a failure of principals and teachers to continue to ask for support the next school year.

Many commanders have policies that allow military and civilian personnel to volunteer in the schools for up to 59 minutes per week if it does not interfere with other duties. Schools record volunteer hours and many report many thousands of hours provided during a school year. Administrators indicated that the time provided by military and civilian personnel and family members far exceeded what could be expected in a normal stateside community school.

Some installations have and others are beginning to establish mentoring programs. The most comprehensive one observed was at Aviano Air Base, Italy. The mentoring programs are designed to provide assistance to students, thereby enhancing the overall effectiveness of the educational system. Volunteers, usually military personnel, meet with the students for 60 to 90 minutes each week in one-on-one mentoring sessions and support activities designed to aggressively improve students' ability to succeed. While some installations and units desire to establish mentoring programs, they are constrained by the inability of the military person to commit to a weekly session because of frequent deployments and/or training exercises. The mentoring programs are most effective when a long-term relationship (at least one academic year) can be established with the student.

Some military commanders are providing various types of orientations for school personnel. These orientations usually take the form of "Welcome Back" and "New Teacher" orientations. They cover such things as the installation and unit missions, annual training plans, and deployment schedules. Most teachers appreciated learning about what the military personnel on the installation would be doing, although some thought it was only important to know what the parents of the children in their class would be doing. They all realize that when a parent is deployed there may be a change in a student's behavior and academic performance. Most teachers appreciate it when they are informed that a military parent will be away from home for some period of time. They would like to know about the deployment in advance, rather than after there is a decline in behavior and/or performance.

Many of the orientations are conducted as part of the 3 days when teachers return to school, before the students begin class. Most teachers indicated they wanted to feel that they were part of the military community and that the military considered what they did was important. In Korea, teachers were taken on a tour of the Demilitarized Zone between South and North Korea to get a better understanding and appreciation of the military mission in Korea. Some teachers in Germany had the opportunity to go to the field, observe live fire tank training, eat Meals-Ready-to-Eat, and understand what field duty was like. Some commanders invite the principals to their weekly staff meetings, or hold periodic commander-principal breakfasts to discuss educational issues. For teachers who are new to DoDEA schools, it is beneficial for them to learn the basics about the military, and what facilities and services are available. Even though they usually have another teacher sponsor who helps them inprocess, the orientation is helpful. Even teachers who have been in DoDDS for several years and rotated to a new installation find the orientations useful because each installation and organization is different, especially when they transfer to an installation operated by a different Service than the one they left.

When Congress and OSD approved funding for the Full Day Kindergarten initiative, primarily as a result of the efforts of the senior military leaders in Europe, DoDEA conducted an assessment of which facilities could handle the change and provide full-day kindergarten in SY 99–00 without additional construction. Initially they did not consult with the military to see if they had space or facilities that could be used. When the military got involved, it was able, in some locations, to provide facilities and space that DoDDS did not control but that the military was willing to provide to help expedite the implementation of full-day kindergarten.

4. Conclusions

The military and DoDEA must be full partners involved in planning for the relocation or expansion of schools, personnel, and equipment, consistent with drawdown and relocation plans. Military commanders at all levels are supporting and emphasizing the importance of dependent education. They and the DoDEA administrators are developing effective lines of communication.

5. Recommendations

DoDEA administrators should consult with the military community about major changes in school policy, curriculum, etc.

Military commanders should involve DoDEA at the beginning of any planning related to drawdowns and relocations.

All installation commanders should have an Adopt-a-School type program appropriate for the units assigned at the installation, and school principals and teachers should take full advantage of the program.

School principals/superintendents and installation commanders should develop a student mentoring program in every school.

Military commanders should provide annual orientations to school personnel about unit and installation missions, training, deployments, etc., and establish ways to make teachers feel that they are an integral part of the military community.

C. PARENTAL INVOLVEMENT

1. Issue

Does DoDEA encourage involvement and communicate this effectively to parents? Does the military encourage and provide an opportunity for parents to be involved in the education of their children?

2. Summary of Interviews

All stakeholder groups stated that although there are many parents who are involved in the education of their children, they would like to see more involvement. They stated that some parents have no interest in the education of their children, are not interested in what they are doing, and do not attend activities involving their children. Most of the parents interviewed are active participants in school and classroom activities and volunteer to serve in numerous capacities. The students interviewed feel that their parents care and that most parents care about their children's education. They are glad to know that their parents are there to help.

Military leaders want to raise parents' expectations for their children's education and get them to want more for their children. Educators stated that parents must be the advocates for their children and address issues with teachers and principals. Parents should be provided with knowledge about their role and informed about what resources are available to help them. The more educated the parents, the more likely they are to be involved in their children's education. There are many dual military parents and single parents, who find it difficult to participate. Interviewees stated that many parents feel intimidated. Some lower-ranking enlisted families are not able to participate because they have other younger children at home, they feel inadequate and think that they have nothing to contribute, and/or they lack transportation. At some installations it is hard to get volunteers because of the large ESL population.

Stakeholder groups stated that parental involvement and participation varied in the different schools, depending on the demographics of the families at each installation, deployments, and training activities. One military leader at successive assignments in Europe stated that at one installation 80% of the parents were involved with the schools, and at the next installation it was about 20%. It is usually a smaller active core of parents who participate in most aspects of school support activities. A priority of military leaders and educators is to improve the level of parental involvement. Most schools send home monthly newsletters to the parents about activities in the school.

Many parents and educators noted that military parents seemed more involved in education than other families in the states. When teachers and schools seek volunteers, military parents respond much more than parents at stateside schools. In DDESS there are more parent volunteers than in the adjacent community schools. Parents are willing to volunteer and get involved because they feel welcome in the schools. Teachers and administrators are continually trying to encourage parents to participate and make them feel welcome. The PTSA and PTO also get involved in getting the parents into the schools. There are plenty of volunteers to help in the school and classroom. Principals work hard to recruit parents as active members on various school committees. Few attend SAC or school board and PTSA meetings, where they could have their voice heard if they so desired.

There is very good attendance by parents at parent-teacher conferences. Teachers estimate that more than 90% of the parents come, and that the military parent comes whenever possible. Many teachers try to schedule the conference so the military parent can attend. At many installations the military parents are allowed time off from work to attend the conference, and at others installations the parent-teacher conference is conducted at the military member's place of duty.

Teachers thought that many parents are involved with and care about the education of their children on an individual basis. They check their papers, help them with homework, ensure that they're doing their homework, and try to help them learn. Some may be fearful, feeling helpless to assist or unable to understand the material their child is trying to learn. The range of parent academic ability varies, so some of them have a hard time trying to help their children. More parents need to spend more time with the children at home on school-related work, but teachers realize it is difficult when the father is deployed and the mother is home alone with several small children. Anything parents can do to help their child at home is beneficial.

3. Analysis

Studies have shown that greater family involvement in children's learning is a critical link to achieving a high quality education and a safe, disciplined learning environment for every student. If parents are involved with the children's education, the child will do better. They also show that what the family does is more important to student success than family income or education. In 1996 the NCES conducted a National Household Education Survey that included information on fathers' involvement in their children's education. It found that fathers who had high involvement in school activities, such as volunteering in the school and attending class events and parent-teacher conferences, generally had children who earned better grades, enjoyed school more, participated in more school activities, and had fewer discipline problems than those fathers who did not. There are two different types of involvement—involvement in school or classroom activities, and involvement with students at home.

Military commanders are making a concerted effort to improve parental involvement and support. Some have policies that state the military parents' place of duty, when a parent-teacher conference is scheduled, is at the conference. The Secretary of the Army and Chief of Staff, Army signed a Memorandum: Fifth Annual America Goes Back to School Initiative on August 24, 1999. It encourages parents and families to get involved with school activities. It states that "in order to encourage and support parent involvement throughout the school year, Army policy, mission permitting, makes a soldier's scheduled parent-teacher conference the place of duty." Consequently, the schools and teachers are working to schedule the conferences at times most convenient for the parents. Although this policy exists, many local commanders, parents, and educators were not aware of it. At the local level, some installation commanders have authorized military parents 59 minutes to come into the classroom each week, or have stated their support for military parents to attend parent-teacher conferences. Those parents and educators interviewed at installations with those polices were aware of them.

The DoDEA School-Home Partnership (SHP) Program is designed to get parents involved in the school and at home, and includes an extensive list of suggestions and best practices about how to involve parents with their children.[1] Many schools have implemented programs, based on these suggestions and their own initiative, that involve parents with their child's education in the school and at home. For example, the Ft. Benning school district instituted two effective programs. In Parent Academic Math, parents take some of the math instruction with their children in class and then go to lunch with the child. In Partners in Print, the teachers help parents learn how to teach children to read at night. Several other schools have innovative programs. Data is maintained in the schools that indicate the names of volunteers and the number of volunteer hours performed in the school. Several schools indicated more than 5,000 volunteer hours in 1 year.

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[1] DoDEA School-Home Partnership Program, Key Communicator's Training Guide, 1999.

The DoDEA Community Strategic Plan, Goal 8, is Parental Participation. It states that "by the year 2000, every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children." Table VII-1 presents the results of the 1998 and 1999 DoDEA Customer Satisfaction Survey questions that supported this goal.[2]

Table VII-1. DoDEA Customer Satisfaction Findings on Parental Participation

Parents	Agree
The school does a satisfactory job in providing parenting classes that are sensitive to emerging educational and family issues.	63%
My child's school does a satisfactory job in offering classes that are attended by educators and parents together.	57%
My child's school does a satisfactory job in including parents' views when making decisions.	63%
My child's school does a satisfactory job in providing information about how to help your child with schoolwork at home.	69%
I have attended a PTA/Parent Group meeting this year.	55%
I participated in the school improvement process.	15%
The school does a satisfactory job in offering classes that are attended by educators and parents together.	57%
Teachers/Staff	
Parental involvement in their child's education is adequate.	60%
Home environments that promote learning are adequate.	56%
Parental understanding of the school curriculum is adequate.	61%
Parental support of the school discipline policy is adequate.	65%
Parental support for homework/home learning is adequate.	60%
Opportunities for parents to attend classes that are sensitive to emerging educational and family issues are adequate.	63%
The school's ability to provide classes that are attended by educators and parents together is adequate.	51%
Secondary Students	
My parents are actively involved in my education.	71%
My parents help me with my schoolwork.	71%

4. Conclusions

Parental involvement is a critical component in the education of children. Parental satisfaction depends largely on the amount of involvement of the parent in their children's education, and an awareness of what is going on with their child and within the school.

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[2] DoDEA Strategic Plan Status Report, February 2000.

While many parents are involved in the education of their children, some parents do not know that it is important to be involved in their child's education. Some parents would like to be involved, but find it difficult. Most parents felt there was excellent communication with the teachers and that the teachers worked hard to keep them informed on their child's progress, have conferences, etc. The parents feel they have accessibility to the teachers, principal, and the school board. Although the educators are pleased with the number of parents who volunteer in the school, they would like to see more parental involvement. There is limited assessment of how involved and effective parents are in helping their children at home. The military leaders understand the importance of having parents involved and seem committed to working with parents and the educators to get more of them involved.

5. Recommendations

DoDEA should continue to identify and promote among school principals and military families innovative programs that increase parental involvement, especially with their children at home, and provide information and training on the importance of education and how to assist their children learn.

D. COUNCILS, COMMITTEES, SCHOOL BOARDS, AND SCHOOLS OFFICERS

1. Issue

Are the various councils, committees, school boards, and schools officers effective in assisting DoDEA provide a quality education?

2. Summary of Interviews

All stakeholder groups stated that the School Advisory Committee (SAC) is a good forum for the principal to discuss issues and get feedback. SAC members realize they make no decisions but still feel empowered. Military leaders think the principal is the leader and should make the decisions. Those who express a desire for decision-making are not always willing to accept the responsibility that goes with it. Military leaders and parents think that this school year there is more dialogue with the principal and they have more input before decisions are made. They want to solve issues at the lowest level. Issues that are not solved are forwarded to the Installation Advisory Committee (IAC) or District Advisory Committee (DAC) as appropriate. Schools

Officers (SO) attend the SAC and serve as a direct link to the installation commander. SAC meetings are publicized, but attendance is minimal. Parents usually attend meetings only if they have a particular problem or issue to raise. Lack of participation is viewed by some as satisfaction, and by others as apathy. The military is trying to get more parents involved. Some SAC members would like to be able to discuss and get feedback on personnel issues. Several SAC members thought the principal should discuss the annual budget at the SAC as part of the ongoing budget process. There is not a clear understanding how the various school level groups interact.

Some of those interviewed thought there may be too much layering of committees and councils that deal with both educational and noneducational issues and that the process should be streamlined. Personnel at higher levels should focus on long range issues. The resolution time for issues that go above the SAC is sometimes too long depending on when the next semiannual council meeting is scheduled.

DDESS school boards were viewed as a good forum to provide information and discuss issues. Agendas have a wide range of topics and include budget issues. There are few parent issues because most of them are solved at the school level. Attendees are usually the board members, principals, superintendent, and some parents and teachers. Few others attend, and school boards assume parents are satisfied. School board meetings are well publicized. Board minutes are posted on bulletin boards, put in newsletters and post newspapers, and provided to unit commanders.

School boards members thought they were effective even without any decision-making authority because they have an oversight function and are part of the process. They help the superintendent make good decisions and provide input on community issues and concerns. Most thought there was an effective relationship between the board members, the superintendent, and the principals. The superintendent provides an explanation for decisions. Superintendents keep board members informed about the status of important ongoing issues and seek input from members.

There was no agreement among stakeholders familiar with both SACs and school boards about which, if either, had more power or influence or was more effective.

3. Analysis

a. DoDDS

The councils and committees are established by law and implemented through a DoD Directive, DoD Instruction, and a DoDEA policy memorandum.[3] Figure VII-1 is a schematic of the current council and committee relationships with DoDEA/DoDDS administrators and commanders, based on organizational and operational relationships in the applicable DoD and DoDEA directives.

SACs and IACs were established to encourage participation in school affairs by members of the school and military community and to provide a coordinated process to address and resolve issues at the lowest practical level. The SAC makes recommendations and advises the principal on matters related to school policies, instructional programs, resources within the school, pupil services, student standards of conduct, and policies and standards related to those areas. The IAC makes recommendations and advises the installation commander on matters related to administrative and logistical support provided by the military to the schools on that installation. SAC and IAC members receive annual training on their duties and responsibilities. They appear to function well when there is strong support from all of those involved in the process.

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[3] U.S. Code, (U.S.C.) Title 20, Section 928, establishes the requirement for School Advisory Committees (SAC) and for advisory committees at any installation or overseas area where there is more than one DoDDS school. U.S. Code, Title 20, Section 929, establishes the requirement for the Advisory Council on Dependent Education (ACDE). DoD Instruction 1342.15, Educational Advisory Committees and Councils, dated March 27, 1987, provides "objectives, policies, responsibilities, and procedures regarding School Advisory Committees (SACs), Installation Advisory Committees (IACs), Component Command Advisory Councils (CCACs), Theater Education Councils (TECs), and the Dependents Education Council (DEC) for the overseas school system operated by DoDDS." DoD Directive 1342.6, Department of Defense Dependent Schools, dated October 13, 1992, implements the Advisory Council on Dependent Education (ACDE). DoDEA Admin Instruction 1305.1, DoDEA Superintendent's Advisory Councils, dated May 18, 1999, establishes a "superintendent's advisory council at each area and district level to parallel the district and theater advisory committees established by DoDI 1342.15." (Note: The documents refer to DoDDS regional directors and DoDDS Director. An assumption is made in this study that those positions now refer to the Deputy Director, DoDEA for DoDDS-Europe/Pacific, and Director, DoDEA respectively.)

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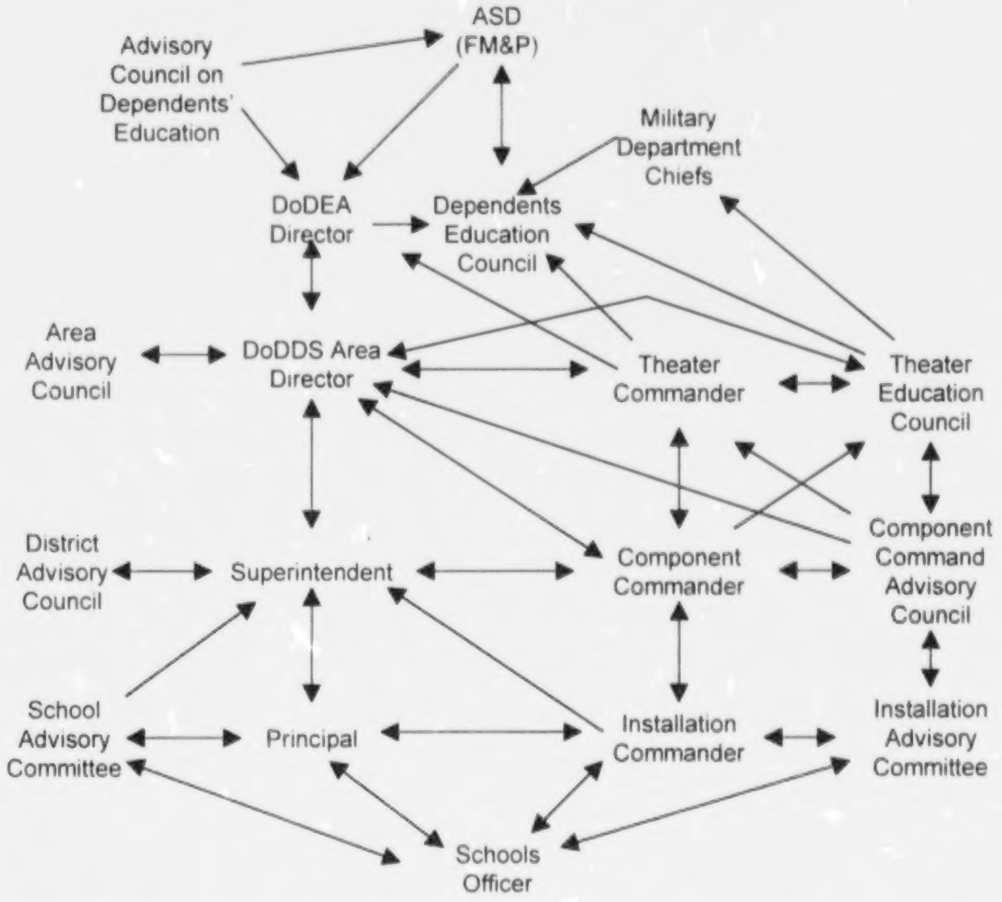
ASD (FM&P)
Advisory Council on Dependents' Education
Military Department Chiefs
DoDEA Director
Dependents Education Council
Area Advisory Council
DoDDS Area Director
Theater Commander
Theater Education Council
District Advisory Council
Superintendent
Component Commander
Component Command Advisory Council
School Advisory Committee
Principal
Installation Commander
Installation Advisory Committee
Schools Officer

Figure VII-1. Council Committee Relationships with Administrators and Commanders

An installation commander is required to appoint a staff member to serve as the installation's Schools Officer (SO).[4] The SO serves as a liaison between the school principals and the installation commander. His primary function is to assist the principals and installation commander in ensuring that adequate military administrative and logistical support is provided to the schools. In the past this was normally an additional duty, but in the last year, most of the installations have hired a full-time civilian to be the SO. He/she attends all SAC and IAC meetings as a nonvoting liaison. There is also a full-time SO or staff member with similar duties at each of the theater and component commands. The Army and EUCOM have developed detailed SO handbooks.[5]

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[4] DoD Directive 1342.6-M, Administrative and Logistic Responsibilities for DoD Dependent Schools, dated August 11, 1995.

The DoD directives allow the SAC and IAC to form standing or ad hoc committees and subcommittees to address specific goals and objectives and review specific areas of responsibilities. Over the years various groups in addition to the SAC have been established at the school level, e.g., School Home Partnership (SHP), School Improvement Team (SIT), Curriculum Committee, Technology Integration Leadership Team, TAG Committee, etc. Some issues overlap, and many of the same people are members of several organizations. During interviews at many schools it could not be determined that any of the above groups were subordinate to the SAC. DoDEA tested a School Based Management pilot program in Panama, 1995–1998, and now wants to begin implementation of School Based Collaboration Councils (SBCCs), which will combine the existing SAC and SIT in DoDDS and replace the SIT in DDESS.[6] The expansion of the program is on hold pending negotiations with the unions.

The objective of the councils and committees is to have recommendations approved and issues resolved at the lowest possible level. Any SAC issue regarding school policies, programs, and resources is submitted to the principal for action. The process terminates at any level when the recommendation is approved or an issue is resolved. Each level (principal, superintendent, and area director) has 2 weeks to respond in writing or forward the issue to the next higher level. If an issue is forwarded to the Director, DoDEA, he has 1 month to respond. SACs are to be kept infomed of the status throughout the process. A SAC may appeal a disapproval of a recommendation to the next level of review. A similar process is followed for issues identified by the IAC relating to administrative and logistical support provided to the schools. If an IAC recommendation cannot be approved or disapproved at any level of review because of a lack of sufficient authority or resources it is referred to the next level for action. Each level has two weeks to respond in writing or forward the issue to the next higher level. IACs have the same appeal procedures.

Higher-level advisory councils were established to promote communication and problem solving among school administrators, military leaders, and local advisory committees. The councils are to discuss and resolve issues that affect the educational environment. Broader issues and unresolved problems are to be forwarded to the next higher council or appropriate authorities. At each level, DoDDS administrators and military commanders are expected to maintain regular and open communications on DoDDS administration issues.

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[5] Department of the Army, *School Liaison Officer Guidebook*, undated. Web site: <http://trol.redstone.army.mil/mwr/family_member/>; and EUCOM*Guide for Liaison Schools Officers*, August 1998, Web site: <www.eucom.mil/programs/depend/soguide.pdf>.

[6] DoDEA School Based Collaboration Conceptual Framework, July 1999.

Membership of the councils varies to some extent from the DoD guidelines but appears to be based on what is determined to be most efficient and effective by the appropriate commander. Several of the commanders designated themselves as chairman or co-chaired the IAC with a principal even though the requirement is for the installation commander to attend IAC meetings that have an elected chairman. The CCAC is to be co-chaired by the component commander and DoDDS area director or district superintendent. Membership includes DoDDS administrators and an equivalent number of representative commanders. The CCACs in Europe differ by component in their composition. The Air Force includes wing commanders and the Deputy Director, DoDEA for DoDDS-Europe. The Army includes Area Support Group (ASG) Commanders, superintendents, principals, some teachers, and parents. The Navy has installation commanders and superintendents. DoDDS-Pacific superintendents and military leaders meet in joint DACs in Japan, Korea, and Okinawa. The DoDEA-directed DAC and AAC each have 4 to 12 appointed members. They are established to create a channel of communications between superintendents and area directors and representative members of their respective constituencies.[7]

The DEC was established to provide consultation between the ASD (FMP), DoDEA Director, commanders of the major theater and component commands, and the chiefs of the Military Departments. They consider questions of educational policy and matters related to facilities, logistics, and administrative support provided to DoDDS by the military. The ACDE was established to advise the ASD (FM&P) and the Director, DoDEA on improvements to achieve and maintain a high quality public educational program.

There is detailed guidance on conduct of meetings, frequency of meetings, distribution of minutes, and preparation and distribution of annual end-of-year reports.[8] SAC and IAC meetings are conducted a minimum of four times during the school year.

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[7] DoDEA Admin Instruction 1305.1, DoDEA Superintendent's Advisory Councils, May 18, 1999.

[8] DoD Instruction 1342.15, Educational Advisory Committees and Councils, dated March 27, 1987.

Minutes of the meeting proceedings are required to be distributed to the principal, installation commander, district superintendent, Deputy Director, DoDEA for DoDDS-Europe and the Pacific, and the component commander. Council meetings are conducted a minimum of two times each year. Minutes of council meeting proceedings at each level are to be distributed to all council members, appropriate theater commanders, the DoDEA Director, and the ASD (FM&P).

The SAC and IAC are required to submit annual end-of-year reports that include goals and objectives, identify areas of special interest, assess achievements and concerns, and make recommendations to improve the educational program. Superintendents receive all SAC reports by June 15, review them, prepare a summary report, and forward the summary report and all SAC reports to the DoDDS area director by July 15. An area summary report is sent to the Director, DoDEA by August 15. Component commanders receive all IAC reports by June 15, review them, prepare a summary report, and forward the summary report and all IAC reports to the theater commander by July 15. A theater-level analysis of the summaries is sent to the Joint Chiefs of Staff and Director, DoDEA by August 15. The DoDEA Director reviews and prepares an analysis of DoDDS area and theater commander summary reports, and forwards the analysis and reports to the ASD (FM&P) by October 1. The summary reports from each level are widely distributed to each organization and committee involved in the process.

Copies of the SAC and IAC summary reports from SY 98–99 were not available for review at DoDEA headquarters. DoDDS-Europe and DoDDS-Pacific provided copies of their SAC summary reports. The DoDDS-Europe report included only a summary of activities and accomplishments. The DoDDS-Pacific report included goals and objective, a summary of activities and accomplishments, and issues and concerns that needed additional review. Neither report contained any recommendations for improvement. EUCOM provided copies of the IAC summary reports from USAREUR and USAFE for review. PACOM provided IAC annual end-of-year reports from two installations and one district. Each report included the information required by the directive.

b. DDESS

The school boards are established by law and implemented through a DoD Directive, DoD Instruction, and a DoDEA policy memorandum.[9] Figure VII-2 is a schematic of the current school board and SO relationship with DoDEA/DDESS administrators and installation commanders.

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[9] Title 10 U.S.C., Section 2164, establishes the requirement for a school board at each installation where DDESS schools are established. DoD Instruction 1342.25, School Boards for Department of Defense

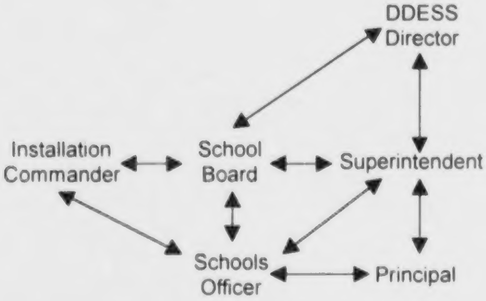

Figure VII-2. School Board Relationships

The school board is an advocate for the parents. School board members are selected as representative of housing areas or schools or are elected at large, depending on the DDESS school district guidelines. The school boards meet nine times during the school year. Minutes of school board meetings are distributed and also provided to the Deputy Director, DoDEA for DDESS after they are approved. There is no requirement for school boards to prepare an annual end-of-year report for submission to the Deputy Director, DoDEA for DDESS or Director, DoDEA.

School boards represent from one to eight schools in a DDESS school district, depending on the number of schools on that installation. The U.S.C. does not permit a consolidation of school boards, e.g., Dahlgren, VA (1 school) and Quantico, VA (4 schools) or Ft. Rucker, AL (1 school) and Maxwell AFB, AL (1 school). However, the four schools on Guam have gone from one consolidated school board when they first started the schools, to two school boards in SY 99-00, to one consolidated school board next year. At those installations with only one or two schools, the school board in essence appears to function more like a SAC, except that there are no educators as members.

School Officers who work for the installation commander are performing the same functions that their counterparts perform overseas. Some installations have a full-time SO and others have someone who performs the SO functions as an additional duty.

Dependent Elementary and Secondary Schools (DDESS), dated October 30 1996, provides "policy, assigns responsibilities and prescribed procedures for the establishment and operation of elected school boards for schools operated by the Department of Defense."

DDESS issues are not addressed at the DEC, and the ACDE does not conduct any visits to DDESS school districts because these two councils were created under directives applicable to DoDDS.

4. Conclusions

The purpose of the councils, committees, school boards, and schools officers is to promote communications and problem solving among school administrators, military leaders, and local advisory committees. The current DoDDS system is extremely cumbersome and complex, but it is functioning. The complexity of the arrangements may hinder the accomplishment of the purpose for which the councils, committees, and relationships were established. The recent creation of the DAC and AAC appear to perform a limited function that should be accomplished by the previously established councils or in coordination with military commander counterparts.

Issues that cannot be resolved at the school or installation level are required to be forwarded and acted upon in a timely manner. This makes sense, but brings into question the value of the semiannual council meetings. Ideally, issues have been resolved without waiting for a meeting, unless there is a reason to defer action or a decision until the issue can be addressed by a wider audience.

Minutes of all meetings and an end-of-year report are to be widely disseminated. While minutes appear to be disseminated and results of council and committee meetings are widely publicized, the same is not true for the end-of-year reports. There does not appear to be any value to the end-of-year reports since many are not submitted or maintained, and no actions are taken as a result of any content in the ones that are submitted. They are a redundant summary of the minutes. The ASD (FM&P); Director, DoDEA; and the Joint Chiefs of Staff should not concern themselves with the details of SAC reports unless it is a significant issue or recommendation upon which they should take action. Those issues and recommendations should have surfaced through the appropriate DoDDS administrator or military chain of command if they could not be solved at a lower level.

There has been considerable effort to reinvigorate SACs and IACs. The introduction of a full-time SO at most DoDDS and DDESS installations and on most higher-level staffs should facilitate timely resolution of issues related to administrative and logistical support problems because of his/her liaison between the principal and installation commander and by attending all SAC and IAC meetings. The commander's staff can resolve many issues without waiting for a scheduled IAC meeting.

The complex and cumbersome council and committee system in DoDDS could be simplified and still retain the intent of the laws and DoD guidance. Figure VII-3 is a proposed revised structure and relationships.

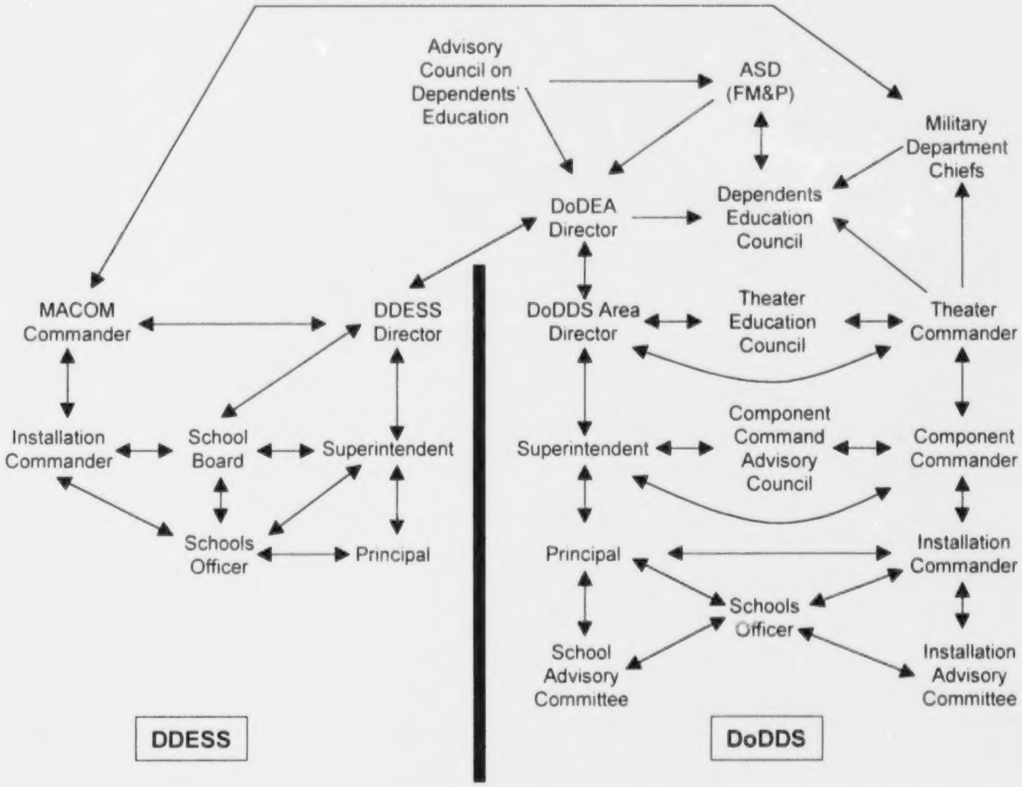

Figure VII-3. Proposed Council, Committee, School Board and Schools Officer Relationships

The DoDDS and military chains of command would function vertically as they currently do to handle immediate issues, concerns, and recommendations within their purview that are beyond the authority or resources available at a lower level. DoDDS administrators and military leaders would continue to coordinate directly on issues as appropriate. Both the CCAC and TEC should consider any issue or concern—education or military support related—that would benefit from a wider audience, to help decision makers get a better understanding of the issues and hear all sides of a problem before taking action. The need for the DoDEA superintendent's advisory councils is eliminated. If the CCAC reviewed not only IAC issues but also educational issues, there may be a

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determination that they are not needed. Most IAC issues that require higher-level action would be handled by the chain of command. The TEC could be co-chaired as the CCAC is currently and could have an expanded membership from that specified in the DoD guidance. The CCAC, if determined to still be feasible, would remain organized by component command in Europe and by country/district as is currently done in the Pacific. Frequency of council meetings could be evaluated to determine if they should be held less frequently when considering what is or should be accomplished and the time that many of the same people spend in these meetings.

DDESS does not get any consideration of its issues before the DEC, nor is it included in any visits by the ACDE. DDESS represents 31% of the student enrollment and 31% of the schools in DoDEA. That is too significant to exclude. The DEC should address issues from DDESS just as it addresses those from DoDDS. Issues related to the budget, curriculum, facilities construction, maintenance and repair, and many DoDEA policies are applicable, or should be applicable, to DDESS. If the functions performed by the ACDE as outlined in the U.S.C., are beneficial for DoDDS, they should be just as beneficial for DDESS. The U.S.C. and DoDI establishing the ACDE and DEC would have to be revised to accommodate inclusion of DDESS. Figure VII-3 depicts the DDESS relationship to the ACDE and DEC through the Director, DoDEA, the same as for DoDDS. Educational issues at CONUS military installations that should be addressed at the DEC can also be forwarded through the MACOM commander to the Military Department Chiefs who are members of the DEC.

The inability to make decisions as opposed to providing advice and recommendations does not appear to be a significant problem. Interaction with and openness by principals, superintendents, and installation commanders are critical to the success of a SAC, IAC, or School Board. They must be willing to listen, understand concerns, act on recommendations and advice, and provide feedback. There should be a good reason and an explanation if a recommendation is not accepted. If parents and teachers feel that they are making a difference and the educational and military leaders work with them, the process is successful. If the councils, committees, and school boards function properly, they can be a powerful force in enhancing high quality education in the DoDEA school system.

5. Recommendation

DoDEA should submit changes to legislation and DoD Directives and Instructions to simplify and streamline the procedures and relationships that govern the functioning of the educational advisory councils and committees and involve DDESS in the DEC and ACDE process.

E. FUNDING AND LEGISLATION

1. Issue

Is funding for DoDEA adequate to provide a quality education? Does legislation impact on DoDEA's ability to provide a quality education?

2. Summary of Interviews

Military leaders and parents thought that, with the current interest in and emphasis on education throughout the United States, DoDEA should take the opportunity to highlight its needs and get additional funds for worthy programs. In the United States, parents can choose to live in districts with better schools that are usually better funded, but they have no option overseas. Congressmen fight for education funds for their districts, but there is nobody in Congress who fights for funds for DoDEA. DoDEA should do a better job of selling its projects and programs to Congress and justifying funding for those that are essential. DoDEA schools are in essence the Commander-in-Chief's schools and should be a showcase for national models of outstanding educational programs. DoDEA should receive or be eligible for some of the funds that the Department of Education provides to the states through grants. Some stakeholders in each group thought that DoDEA was resourced well based on what they see in the DoDEA schools, programs, etc., compared with other school districts where their children have attended school.

Some military leaders thought that the Joint Staff and OSD were satisfied if the performance of DoDEA schools and students was at or above the national average because they did not have the resources for them to be the best. OSD must acknowledge that the quality of education in DoDEA schools has an impact on the quality of life for military families—and ultimately on readiness. Military and DoDEA leaders understand that the Services do not want to reduce their resources for training, operations, and maintenance but think they should support requests for additional funds from Congress when appropriate. Funding should not come from the Services but from Congress.

Several military leaders stated that there should be a way to establish relationships with commercial organizations and businesses that could provide voluntary support to DoDEA schools without so much concern about conflict of interest.

3. Analysis

a. Funding

The DoDEA FY 2000 budget is $1,310.2 million, an increase of 4.2% from FY 1999. The major reasons for the increase are price growth and the 5-year implementation of full-day kindergarten and reduced PTR for grades 1 through 3. DoDEA is funded from three major defense appropriations. Table VII-2 shows the amount DoDEA received for each appropriation and the amount allocated to the largest categories within the Operations and Maintenance Account.[10] Personnel costs are the largest single expenditure.

Table VII-2. Significant Expenditures in DoDEA FY 2000 Budget

Defense Appropriations & Categories	Amount ($000)	Percentage
Operations & Maintenance	1,226,461	93.6
Civilian Payroll	845,341	68.9
Student Commute	61,200	5.0
Repair & Maintenance	45,247	3.7
Textbooks & Supplies	34,015	2.8
Permanent Change of Station	24,100	2.0
Technology	23,179	1.9
Non-DoDDS Schools Tuition	22,776	1.9
Military Construction	82,305	6.3
Procurement	1,419	0.1
Total	1,310,185	100.0

Funding for public elementary and secondary schools come from the local, state and federal government. In SY 97–98 the national average contribution from each level was 44.8% (local), 48.4% (state), and 6.8% (federal).[11] The federal contribution ranged from a high of 16.5% for Washington, DC, and a low of 3.6% for New Jersey.

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[10] DoDEA Budget Book, FY 2000, June 2000.

[11] U.S. Department of Education, NCES, Revenues and Expenditures for Public Elementary and Secondary Education: School Year 1997–1998, May 2000.

Appendix G, table G-1, provides the amount and percentage of the federal contribution to each state. All of the federal funds come from the Department of Education and include direct grants-in-aid to schools or agencies, funds distributed through a state or intermediate agency, and revenues in lieu of taxes to compensate a school district for non taxable federal institutions within a district's boundary.

One measure of how education funds are expended is to compare the per pupil expenditures at various levels. A review was done of the per pupil expenditures for each of the 50 states, the District of Columbia, DoDDS, and DDESS, ranked from highest to lowest for SY 97–98 and SY 98–99 (appendix G, table G-2). Table VII-3 shows per-pupil expenditures for the states with the highest and lowest expenditures and compares the U.S. average with DoDDS and DDESS expenditures.[12] The DoDDS and DDESS figures exclude the costs associated with repair and maintenance projects over $150,000, support services unique to overseas schools, special overseas allowances, permanent change of station costs, and the costs to run the high school dormitory in London, England.

Table VII-3. Comparison of Per Pupil Expenditures

	SY 97–98		SY 98–99	
Highest (NJ)		$9,643		$10,007
DoDDS	(4th)	$8,597	(4th)	$9,055
DDESS	(10th)	$7,297	(6th)	$8,586
U.S. Average	(between 23rd & 24th)	$6,189	(between 24th & 25th)	$6,435
Lowest (UT)		$3,969		$4,027

DoDEA expenditures are about the same as those states with the highest per pupil expenditures, which are mostly in the Northeast. Their expenditures are more than twice as large as those states with the lowest per pupil expenditures, which are mostly in the South and West. There is no adjustment for regional cost differences in the data. Also, the aggregation of school districts into statewide averages may not reflect possible wide variances among school districts within a state. A review was also done of the per pupil expenditures for the 100 largest school districts in the United States. In FY 1996 the highest expenditure, $11,266, was in Newark City, NJ; the average for all 100 districts was $5,513; and the lowest expenditure, $2,763, was in the Puerto Rico Department of

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[12] U.S. Department of Education, NCES, Common Core of Data, "National Public Education Financial Survey, School Year 1997-98 and DoDEA SY 97-98 and 98-99 Accountability Reports.

Education.[13] DoDEA data for FY 1996 was not available, but assuming a $400 reduction of the SY97–98 data, the rankings for DoDDS and DDESS would have been 4th and 13th, respectively.

Budget data were also compared for Montgomery County, Maryland; Fairfax County, Virginia; Prince George's County, Maryland; Prince William County, Virginia; DoDEA; DoDDS; and DDESS. All four counties are included among the 100 largest school districts. Data are often difficult to compare, but these counties, along with four smaller counties and cities in the Washington, DC, metropolitan area, provide data, based on common definitions, for an annual Metropolitan Area Boards of Education Guide (MABE) produced by Fairfax County Public Schools.[14] Table VII-4 presents a wide variety of comparative budget data for the four counties available from the guide. DoDEA provided data for DoDEA, DoDDS, and DDESS based on the common definitions used in the MABE Guide.

DoDEA data seems to be generally consistent with data for these other school systems with the exception of the DoDEA per pupil expenditures, which are higher. The difference in salary and benefits between DoDDS and DDESS teachers is primarily due to the overseas allowances paid to the DoDDS teachers. If they were not included, the salary and benefits of DoDEA teachers would be lower than for the four counties' teachers.

Based on interviews, budget formulation and decision making is currently done at DoDEA headquarters with little input from DoDDS or DDESS. Under its former director, DoDEA assumed control of the Area Service Centers, including budgeting functions. In SY 99–00 control of the Area Services Centers was in the process of returning to the respective Deputy Directors, DoDEA for DoDDS-Europe and DoDDS-Pacific. One responsibility of the SAC is to make recommendations and advise the principal on the allocation of resources within the school to achieve educational goals.[15]

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[13] U.S. Department of Education, NCES, Characteristics of the 100 Largest Public Elementary and Secondary School Districts in the U.S. 1997–1998, July 1999.

[14] FY 2000 Metropolitan Area Boards of Education Guide, Fairfax County Public Schools, October 1999.

[15] DoD Instruction 1342.15, Educational Advisory Committees and Councils, dated March 27, 1987.

Table VII-4. FY 00 Comparative Data for Washington Area School Districts and DoDEA

Category	Mont-gomery	Fairfax	Prince George's	Prince William	DoDEA	DoDDS	DDESS
Enrollment 1999	127,852	151,418	130,140	51,621	107,976	74,284	33,692
Number of Schools	189	205	182	69	224	154	70
Operating Fund ($M)	$1,136.6	$1,279.0	$876.1	$359.9	$1,226.4	$780.1	$348.3
Fed.Contrib. to Oper. Fund ($M)	$24.6 2.2%	$19.5 1.5%	$36.2 4.1%	$9.1 2.5%	100%	100%	100%
Construction ($M)	$110.5	$139.5	$73.7	$77.6	$82.3	$24.6	$52.4
Cost per Pupil[a]	$8,508	$8,203	$5,936	$6,708	$8,908[b]	$9,055	$8,586
Teacher Salary BA/BS Beginning	$31,669	$30,761	$30,577	$30,328		$29,125[c]	$28,423[d]
Teacher Salary, MA/MS Step 9	$46,667	$45,953	$40.176	$41,829		$42,770[c]	$40,688[d]
Teacher Salary, Average	$51,267	$48,497	$42,469	$41,389		$49,020[c]	$52,820[d]
Contract Length	191 days	193 days	192 days	194 days		190 days	190 days
Salary & Benefits-$45,000 Salary	$62,649	$60,153	$58,393	$60,267		$62,173	$55,130

[a] Uniform formula used by districts may vary from their individual budget documents. FY2000 data for the counties and FY 1999 data for DoDEA.

[b] Excludes costs associated with repair and maintenance projects over $150,000, support services unique to overseas schools, special overseas allowances, permanent change of station costs, and the costs to run the dormitory.

[c] Does not include overseas living quarters allowance, and cost of living allowance

[d] Salary is higher for teachers at Quantico, VA; West Point, NY; and Guam.

School boards are to participate in the development of the school system's budget for submission to the Director, DoDEA for DDESS and participate in the oversight of the approved budget.[16] DoDEA does not have historical figures associated with the cost of doing business, e.g. how much to open a school, fund a new educational program, etc., in any type of database that allows timely analysis of factors involved.

There are different accounting systems for DoDDS and DDESS that have not been consolidated since they both came under DoDEA. The budget procedures are also complicated because of interaction between DoDEA and the Defense Finance and Accounting System (DFAS). DoDEA does not have its own accounting system and is dependent on DFAS to handle all disbursements. In FY 2000 DoDEA paid DFAS

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[16] DoD Instruction 1342.25, School Boards for Department of Defense Dependent Elementary and Secondary Schools (DDESS), dated October 30, 1996.

$4 million for support.[17] DoDEA uses several different DFAS Centers, operated by different Services with different accounting procedures and classification codes. For example DDESS personnel are paid from the DFAS Center in Pensacola, FL (Navy), and DoDDS personnel are paid from the DFAS Center in Charleston, SC (Army) with each one having separate procedures. Teachers in DoDDS are paid over 10 months, except those in the Italy and Turkey/Spain districts, who have a choice, and DDESS teachers are paid over 26 pay periods (12 months). There is no option for the teacher to change payment options. Some of this is a result of union negotiations and some is because of the different accountability systems in place.

b. Legislation and Implementing Guidance

There are two primary segments of the United States Code (U.S.C.) that govern the operation of DoDEA schools: 1) U.S.C., Title 10 (Armed Forces), Chapter 108 (DoD Schools), Section 2164 – DoD Domestic Dependent Elementary and Secondary Schools; and 2) U.S.C., Title 20 (Education), Chapter 25A-Overseas Defense Dependent's Education. Amendments to the code are incorporated as a result of changes in public law. There are other parts of the Code and Public Laws that impact specific areas of DoDEA such as the Individuals with Disabilities Education Act (IDEA).

The Department of Defense has published 14 DoD directives, instructions and a manual that specifically address DoDEA, DoDDS, or DDESS/Section 6 Schools, and provide guidance based on the USC and public law. Table VII-5 lists the primary DoD directives.

Table VII-5. Primary DoD Directives Impacting on DoDEA

DoD Directive	Title	Date
1342.20	DoD Education Activity (DoDEA)	October 13, 1992
1342.6	DoD Dependent Schools (DoDDS)	October 13, 1992
1342.16	Provision of Free Public Education for Eligible Dependent Children Pursuant to Section 6, Public Law 81-874 as Amended	October 16, 1987
1342.21	Department of Defense Section 6 Schools	October 13, 1992

DoD Directive (DoDD) 1342.6 states that the mission of DoDDS is to "provide a free public education of high quality from pre-kindergarten through grade twelve." There is no definition of "high quality." DoDD 1342.16 states that "Section 6 School

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[17] DoDEA FY 2000 Budget Book, June 2000.

Arrangements are required, to the maximum extent possible, to provide educational programs comparable to those being provided by local public educational agencies in comparable communities in the state where the Section 6 School Arrangement is located. If the Section 6 School Arrangement is outside of CONUS, it shall provide, to the maximum extent practicable, educational programs that are comparable to the free public education provided by the District of Columbia."

DoDEA has published more than 150 regulations, manuals, and administrative instructions, based on the U.S.C., public law and DoD guidance, for their internal operations and management. About 100 of these documents focus on curriculum and other academically related topics. In addition, DoDEA has published numerous policy letters and pamphlets that provide guidance and information.[18] The documents were published between 1985 and 1997, most of them between 1987 and 1992. Most of the documents address DoDDS and very few address DDESS.

Since 1992, when the Director, DoDEA assumed responsibility for organizing, managing, and directing the DoDEA, DoDDS, and Section 6 Schools (now DDESS), there has not been much updating of the documents that guide the organization. For example, DS Regulation 1300.1, Organization, dated August 20, 1985, provides for the organization of DoDDS into 5 regions and 19 chief school administrative offices. The documents that address curriculum have not been updated to reflect curriculum changes based on the development of content and performance standards. Although DoDEA Manual 2000.4-1, *The DoDEA DoDDS Curriculum Standards*, was published in September 1998, it only contains curriculum standards for the four core areas, does not supercede any of the earlier manuals that cover those areas, and applies only to DoDDS. There are few documents that detail operations of DoDEA rather than DoDDS and DDESS, although there has been an effort to have DoDDS and DDESS follow the same guidance and policies when it is appropriate.

DoDEA is not eligible to receive grants from the Department of Education, but DoDEA has requested a change in the legislation that would allow them to meet the definition of eligibility. In FY 2000 the Department of Education had 20 major initiatives and funding opportunities. Appendix G, table G-3, lists each initiative, the amount of funds available, a summary of the initiative and the focus of each initiative. A total of

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[18] DoDEA 1000.1-1, Department of Defense Dependents Schools (DoDDS) Index of Issuances, August 1997.

$3.443 billion was allocated to grants for those initiatives. Based on an analysis of each initiative, if DoDEA could have competed for grants, only two would apply to DoDEA. One initiative was the Bilingual Professional Development Program with grants of $150K to $250K awarded this year to 87 individuals. The other one is the New American High Schools program, which awards $3,500 grants to outstanding high schools. The remaining initiatives are focused primarily on high poverty urban and rural areas, low-income individuals, low-achieving schools, and teacher preparation programs.

4. Conclusions

The overall budget appears to be adequate to provide a quality education for the children of authorized military and civilian personnel, based on the guidance provided in DoDD 1342.6 and 1342.16. This is supported by interview results discussed earlier in the study and much of the analysis. DoDEA could benefit marginally by the ability to apply for and receive grants from the Department of Education. There may be other funds for which they might be eligible that could supplement the funds provided by Congress through the Department of Defense. DoDEA schools are essentially the only "federal" or "national" schools in the United States and could serve as a model for many of the initiatives for improving educational quality that are funded through the Department of Education. Funding for these initiatives could also be requested from OSD through an increase in the DoDEA budget. The per pupil expenditures are among the highest of any of the state averages and the 100 largest school districts. Equivalent budget data in several categories for school districts similar to DoDEA, DoDDS, and DDESS are similar. Although there are many areas where operational and management changes could improve specific aspects of the quality of education provided, the resources are there to support them.

DoDEA should involve DoDDS, DDESS, and councils more in the budget development process, but DoDEA will need to develop and provide detailed guidance. Budget development and justification should be based on DoDEA goals and the DoDEA Community Strategic Plan. A data base of budget actions associated with educational programs, rather than aggregated budget categories, could provide a ready reference for enhancing existing or developing new education programs. The use of several DFAS Centers run by different Services to process DoDEA financial transactions does not seem as efficient as it could be if the functions were consolidated under one DFAS center.

Eliminating different accounting systems would permit better queries and budget analysis, simplify procedures, and save funds.

The Dependent Education Council (DEC), IACs, SACs, and School Boards are briefed on the budget, but they provide little input, if any, on the establishment of priorities for major programs. It is easy for everyone to identify great programs that would improve the quality of education, but difficult to decide which are the most important when there are limited funds. The stakeholders represented by the various councils, committees, and boards should help prioritize programs and initiatives and be fully involved in deciding what other programs may have to be reduced in order to pay for them. For example, program-based staffing would be expensive but would help provide a similar education for students in small schools. What programs should be reduced or eliminated if the overall budget is not increased? If there is nothing that should be reduced, the DEC members and the CINCs and Services they represent should support and help DoDEA effectively sell these quality education programs to OSD and Congress. Commanders and educators could do more to help influence Congress when congressional delegations visit installations. When they are being shown buildings in need of replacement or repairs, schools should also be included.

Laws, legislation, and implementing guidance published by DoD and DoDEA does not appear to hinder DoDEA in its ability to execute its mission. However, the separation of many policies and procedures for DoDDS and DDESS at all levels, and the absence of guidance for DDESS but detailed guidance for DoDDS hinders the creation of a more efficient DoDEA operation that can be understood by all stakeholder groups. Consolidated documents would provide guidance and a clear understanding of when DoDDS and DDESS should operate the same and when they should operate differently.

5. Recommendations

DoDEA should, with input from DoDDS, DDESS, and councils, develop its budget based on the DoDEA goals and CSP, and develop procedures necessary to translate it to the appropriate categories for budget submission.

DoDEA should review, update, and consolidate all documents that affect DoDDS and DDESS into single documents related to functional areas.

Appendix A
CONDENSED HISTORY OF DODEA

Appendix A
CONDENSED HISTORY OF DODEA*

The origin, evolution, and development of American education for military children is a remarkable success story that spans 180 years.

A. DDESS

In 1821 Congress enacted into law General Winfield Scott's Army Regulations for Financial Support, Administration of Library Services, Education of Children, Music, and Disability Benefits on Military Posts. Schools on military posts operated for the next 75 years under these provisions. In fact, schools were provided on some military posts before they appeared in many frontier communities. Since the days of Army frontier posts, U.S. military installations have established their own schools when no public education was available in the local area.

The status of schools for government dependents changed through the years. For example, in 1838 Congress legislated that Army chaplains were to perform the duties of schoolmaster at the posts, but it was not until 1878, when the War Department issued a general order, that a program was instituted for the operation of schools for children on military posts. Following the 1889 Spanish-American War, post schools for children had no legal status and received no financial support. In 1905 the schools were established as separate institutions by a general order, but were later ruled extralegal by the Judge Advocate General in 1913.

After World War I, Congress again supported the post schools; but that support was discontinued in 1922, and the schools were financed by post recreation funds and contribution. In 1925 the Judge Advocate General ruled that government buildings could be used for the schools, provided they did not interfere with the intended use of the buildings. In 1926 the authorization was given to use post recreation funds to pay the tuition of enlisted men's children. Between the World Wars, recreation funds, contributions, and post exchange profits were the main sources of revenue for the schooling of minor dependents of military personnel who did not have access to public schools.

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* This history was condensed and consolidated from "A Brief History of the Education of the U.S. Military Dependents: 1821 to 2000", by Dr. Thomas T. Drysdale; a chapter from *American Oversees Schools*, editied by Robert J. Simpson and Charles R. Duke, Appalachian State University, 2000; and DMDC Report No. 97-013, October 1997, A Study of Schools Serving Military Families in the U.S.

In 1950, Federal legislation alleviated the irregular and unsystematic funding for these schools by consolidating the funding and operation of these installation-run schools under the authority of Section 6, Public Law No. 81-874. This legislation enabled the Secretary of Education to operate and maintain " Section 6 schools" for children residing on Federal property if: (a) state laws prohibited tax revenues of the state or any political subdivision of the state to be expended for the free public education of children residing on Federal property; or (b) education systems within the local communities were judged unable to provide a suitable free public education for these children. Public Law No. 81-874 also stated that the Secretary of Education, in consultation with the relevant state education agency, must determine that the local schools could provide a suitable public education for the children residing on Federal property before a Section 6 school could be transferred to an LEA.

In 1981, the Omnibus Budget Reconciliation Act (Public Law No. 97-35) transferred responsibility for the Section 6 schools to the Secretary of Defense. For the first year after this transfer, the military services funded the operation of the schools because budget authority had not been provided. While budget authority for operation and maintenance of the Section 6 schools was granted to DoD in 1982, responsibility for this DoD school system was not centralized in the Office of the Deputy Assistant Secretary of Defense for Personnel Support, Families and Education until 1990. In 1994, Public Law No. 103-337 replaced the Section 6 legislation and the school system was renamed the Department of Defense Domestic Dependent Elementary and Secondary Schools (DDESS).

The Section 6/DDESS system has expanded and contracted over the years. After their initial consolidation in 1950, schools were added to the system as a result of the racial integration of the military. Establishing these Section 6 schools allowed military children to attend integrated schools where local schools remained segregated. Since that time, the trend has been for Section 6 schools to transfer to LEAs, largely as a result of: (a) pressure from the U.S. Department of Education on states and localities to acknowledge responsibility for the education of military dependents; (b) population growth near installations; and (c) the integration of the public schools. At one point there were about 100 installations with Section 6 schools, but by the early 1970s, most of these schools had been transferred to LEAs. The last transfer of a Section 6 school occurred in 1973. Three other Section 6/DDESS school systems have closed since then as a result of installation closures. The Guam District was established in 1997 because of concerns expressed by the military about the quality of education provided by the Guam Department of

Education. DDESS schools that remain tend to be in locations where a transfer is difficult to accomplish.

In 1955 an amendment to the original Section 6 legislation required that the transfer of a Section 6 school to an LEA must be approved by the Secretary of Education and the Secretary of the relevant military service. This was changed in 1990 when operation of the schools was centralized within DoD. Now a transfer of a DDESS school must be approved by the Secretary of Defense since these schools are under DoD and not the Department of Education.

B. DoDDS

Following World War II there was no precedent to follow for establishing and operating dependents schools in foreign occupied countries. Initially, small schools were organized overseas by parents. Then in 1946 in the occupied countries of Germany, Austria, and Japan, dependents schools, on and off military installations, were established and operated by the Department of the Army. By 1949 the number of schools approached 100, and soon school systems were being operated separately by the three U.S. military departments (Army, Navy, Air Force) in countries around the world. By the late 1960s there were more than 200 elementary and 100 junior/senior high schools abroad, administered and taught by Army, Navy, and Air Force civilian employees.

In 1964 the Secretary of Defense combined the three separate school systems into the Department of Defense Overseas Dependents School System. The worldwide system was then divided into three geographic areas, with the Army operating all schools in Europe, North Africa, and the Middle East; the Air Force operating all schools in the Pacific; and the Navy operating all schools in the Atlantic. Half of all these schools were located in Germany.

During the 1960s and 1970s, worldwide enrollment averaged 160,000, K-12, in schools operated by the military departments in in more than 30 foreign countries.

In 1976 a Joint House-Senate Conference Committee Report informed the three military departments that the Department of Defense was taking over the operation of the military dependents schools. Total management of the program was then invested in a newly established office in the Pentagon: the Office of Overseas Dependents Education, responsible to the Deputy Assistant Secretary of Defense for Manpower and Reserve Affairs. It was established as a consolidated system to improve the quality of education through increased uniformity in such things as curriculum development and budget operations. In 1979 the name was changed to the Department of Defense Dependent Schools (DoDDS). The three geographic areas – Europe, Atlantic, and Pacific - were reconfigured. Replacing them were six new geographic regions:

Atlantic, Germany North, Germany South, Mediterranean, Panama, and Pacific, each with a regional director and several district superintendents. In 1981, the Germany North and Germany South regions were combined into a single Germany region. In 1997-98, DoDDS was reorganized again into two geographic areas: Europe and the Pacific, plus one coterminous area/district that included schools in Panama and Cuba. The schools in Panama closed in 1999 with the transfer of the Panama Canal to the government of Panama.

The overseas education of more than four million American children and youth is an important chapter in the history of American education. These students, their parents, teachers, administrators, and support personnel have lived on the edge of history in the making: in view of the Berlin Wall going up and coming down, Corregidor, the DMZ in Korea, within earshot of the Six-Day War, the Persian Gulf War, and the invasion of Panama. They have lived and played near international military and political headquarters visited by presidents, prime ministers, royalty, and ambassadors. They have studied and taught in a wide variety of physical facilities, in the shadows of historic castles, near battlegrounds, next to famous landmarks, and have been evacuated from overseas installations because of political and military actions.

C. DODEA

In 1992 the DoDDS headquarters in Arlington, VA became the Department of Defense Education Activity (DoDEA). The Director, DoDEA assumed responsibility for organizing, managing, and directing the DoDEA, DoDDS, and Section 6 schools, and all assigned resources. He was also responsible for supervising, administering, implementing, and evaluating policies and procedures for the DoDDS and Section 6 schools. The DoDEA was subordinate to the Office of the DASD (PSF&E) which had responsibility for management and oversight of dependent education, stateside and overseas.

Appendix B
STUDY OBJECTIVES AND APPROACH

Appendix B
STUDY OBJECTIVES AND APPROACH

Tables B-1 through B-7 contain demographic details about the interviews.

Table B-1. Distribution of military leaders and civilian school liaison officers.

Table B-2. Distribution of parents.

Table B-3. Parental involvement in school organizations.

Table B-4. Distribution of administrators.

Table B-5. Distribution of teachers.

Table B-6. Distribution of students.

Table B-7. Schools represented and visited.

Table B-8 provides the categories and components of education quality that are important to DoDEA stakeholders.

The appendix concludes with information about comparing DoDEA with other school systems.

Table B-1. Distribution of Military Leaders Interviewed (and Civilian School Liaison Officers)

Military	O-10	O-9	O-8	O-7	O-6	O-5	O-4	O-3	E-9	Total	Civilian
By Service											SLO
Joint	1									1	2
Army		3	6		15	4	3			31	8
Navy			1	1	7	4				13	3
Air Force	1	2	1	6	14	3		1	1	29	6
USMC				1		1			1	3	3
Total	2	5	8	8	36	12	3	1	2	77	22
By Location											
Germany	1	2	2	1	6	4	1			17	5
Italy				2	2	2				6	
England			1		2					3	1
Hawaii	1	1	1		3	1		1		8	6
Korea			2	1	4		1			8	1
Okinawa				2	4	1			1	8	1
Japan		1	1	2	4	1			1	10	3
Guam					4	1				5	3
CONUS		1	1		7	2	1			12	2
Total	2	5	8	8	36	12	3	1	2	77	22
By Position											
Cdr/Dep	2	5	6	7	22	5	1			48	
Staff			3		14	7	2	1	2	29	22
Total	2	5	9	7	36	12	3	1	2	77	22

[redacted]

Parents	ES	MS	HS	Total	Children
By Base					
Army	32	20	21	73	
Navy	22	5	18	45	
Air Force	48	10	11	69	
USMC	5		7	12	
Total	107	35	57	199	
By Location					
Germany	12	10	10	32	57
Italy	5	1	9	15	23
England	8		5	13	24
Hawaii					
Korea	5	2	9	16	31
Okinawa	12		6	18	29
Japan	14		12	26	48
Guam	13	4		17	35
CONUS	38	18	6	62	111
Total	107	35	57	199	358

Military	Army	Navy	Air Force	USMC	Total
O-9			1		1
0-8	1				1
0-7		1	1		2
0-6	4	3	2		9
O-5	2	2	1	1	6
O-4	5	2	3		10
0-3		2	1		3
0-2	1		1		2
E-9		1			1
E-8	2	1	2		5
E-7	2	1	3		6
E-6		1	2		3
E-5			4		4
E-4			2		2
Total	17	14	23	1	55

Location of Previous Assignment	
25 States	10 Countries
Alabama	Azores
Alaska	Bahrain
Arizona	Belgium
Arkansas	Cuba
California	England
Florida	Germany
Georgia	Italy
Hawaii	Japan
Illinios	Okinawa
Kentucky	Panama
Louisiana	
Maryland	
Missouri	
Nebraska	
New Jersey	
New Mexico	
North Carolina	
North Dakota	
Ohio	
Oklahoma	
South Carolina	
Tennessee	
Texas	
Virginia	
Washington	

Table B-3. Parent Involvement in School Organizations

Organization	DAC	Sch Bd	SAC	SILT	SIT	SHP	Volunteer	Aide	Tutor	Mentor	PTSA	PTO	Total
By Base													
Army		9	7	3	2	1	10	2			9	8	51
Navy		6	5	4	1		10				5	5	36
Air Force	2	7	18	2	3	2	7	2	1	2	7	9	62
USMC	1		3		1		1				4		10
Total	3	22	33	9	7	3	28	4	1	2	25	22	159
By Location													
Germany			5	3							8		16
Italy			3	3			1	1		2	4		14
England			1	1			7				2	1	12
Korea			6		1	1						6	14
Okinawa	3		7		1	1	2	1			7		22
Japan			11	2	2		4				3	3	25
Guam		7										2	9
CONUS		15			3	1	14	2	1		1	10	47
Total	3	22	33	9	7	3	28	4	1	2	25	22	159

Data includes about 85% of parents interviewed

Parents interviewed who provided data participated in 0-3 organizations

PTSA members included the Presidents of the European and Pacific Congress of American Parents, Teachers and Students

Data does not include educator participation in these organizations

Military personnel participated in many of these organizations, especially DAC, Sch Bd, SAC and SILT.

Table B-4. Distribution of Administrators Interviewed (also OSD and Other Individuals)

	Asst Prin	Principal	Asst Supt	Supt	Dist Ofc	Area Ofc	DoDEA	Union	Total	Prin of Yea	Supt of Y	OSD	Other
										(Included in Distribution)			
Base													
Army	9	18	2	6	11	7		2	55	3	2		3
Navy		4		1	1				6				
Air Force	7	13	1	2	2			1	26				
USMC	3	5		1	1				10				
Other						4	25	1	30			2	16
Total	19	40	3	10	15	11	25	4	127	3	2	2	19
By Location													
Germany	2	8	1			6			17	1	1		2
Italy		6	1	1				1	9		1		
England		2							2				
Hawaii									0				
Korea	6	4		1	7				18				1
Okinawa	3	2	1	1	1	1			9				
Japan	5	3			1			1	10				
Guam		4		1	1				6				
CONUS	3	11		6	5	4	25	2	56	2		2	16
Total	19	40	3	10	15	11	25	4	127	3	2	2	19

Union includes full-time presidents for FEA, FEA-SR, FEA-Pacific, and OFT

Table B-5. Distribution of Teachers Interviewed

	ES		MS		HS		Total	TOY	Union		
	Teacher	Other	Teacher	Other	Teacher	Other		(included in distribution)			
By Base											
Army	33	3	15		13	2	66	7	7		
Navy	9		6	1	11		27	3			
Air Force	20	2	23	1	27	2	75	3	13		
USMC	4		1		1		6		1		
Other									1		
Total	66	5	45	2	52	4	174	13	22		
By Location									District Pres	School FRS	School FR
Germany	5		9		5	1	20	1		1	
Italy	16	1	1		6		24			1	
England			9	1	2		12	1			
Korea	9	2	2		12		25	1	1	3	4
Okinawa	2		1		4		7	1	1		2
Japan	7		4	1	17	3	32	1	1	2	2
Cuba			1				1				
Guam	5		7		6		18	1			
CONUS	22	2	11				35	7	4		
Total	66	5	45	2	52	4	174	13	7	7	8
Yrs teaching	0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	unk	
Europe	11	3	8	10	5	5	2	1	1		
Pacific	13	10	12	10	10	5	1				
DDESS	7	9	12	7	5	4	1	2			
Total	31	22	32	27	20	14	4	3	1	20	174
	17.8%	12.6%	18.4%	15.5%	11.5%	8.0%	2.3%	1.7%	0.6%	11.5%	
TOY		2	3	1	5			1	1		

Other - includes counselors, social workers, psychologists
TOY - Teacher of the Year for AY 98-99 or 99-00
FRS - Faculty Representative Spokesperson
FR - Faculty Representative

Table B-6. Distribution of Students Interviewed

Grade	2	6	7	8	9	10	11	12	Total
By Base									
Army		2	2	10	4	2	4	8	32
Navy		1	6	2	1	1	5	10	26
Air Force	1	6	1		2	2	4	7	23
USMC						1	1	2	4
Total	1	9	9	12	7	6	14	27	85
By Location									
Germany	1				2	2	4	5	14
Italy								1	1
England			1	1	1	1	3	5	12
Korea			2	1			3	6	12
Okinawa					1	1	1	3	6
Japan		6						1	7
Guam		1	3	1	1	1	2	4	13
CONUS		2	3	9	2	1	1	2	20
Total	1	9	9	12	7	6	14	27	85

Location of Previous School Attended	
20 States	7 Countries
Alabama	Belgium
Arizona	England
Arkansas	Germany
California	Japan
Florida	Okinawa
Georgia	Panama
Hawaii	Turkey
Maine	
Maryland	
Massachusetts	
Mississippi	
Missouri	
New York	
North Carolina	
Ohio	
Pennsylvania	
Rhode Island	
Texas	
Virginia	
Washington	

Table B-7. Schools Represented or Visited During Interviews

Schools Represented	Base	Visited	Grades	Enrolled
DoDDS (44 of 154)				
EUROPE (22 of 116)				
Heidelberg District (3 of13)				
Heidelberg MS	A		6-8	682
Heidelberg HS	A	X	9-12	717
Patch HS	A	X	7-12	576
Hessen District (1 of 17)				
Gen. H. H. Arnold HS	A		9-12	563
Kaiserslautern District (4 of 18)				
Ramstein ES	AF		PK-3	1136
Ramstein JHS	AF	X	6-8	656
Ramstein HS	AF		9-12	885
Wetzel ES	A	X	PK-5	451
Wuerzburg District (1 of 19)				
Bad Kissingen ES	A		PK-5	122
Schweinfurt ES	A	X	PK-5	770
Schweinfurt MS	A		6-8	215
Wuerzburg HS	A		9-12	573
Italy District (8 of 13)				
Pordenone ES	AF	X	K-6	188
Aviano HS	AF	X	7-12	476
Livorno Unit School	A	X	PK-12	163
Naples ES	N	X	PK-6	991
Naples HS	N	X	7-12	544
Verona ES	A	X	K-8	83
Vicenza ES	A	X	PK-6	582
Vicenza HS	A		7-12	278
United Kingdom District (2 of 13)				
Croughton ES/MS	AF	X	PK-8	189
London Central HS	N	X	7-12	300
Brussels District (0 of 13)				
Turkey/Spain District (0 of 10)				

Table B-7. Schools Represented or Visited During Interviews (Con't)

PACIFIC (21 of 37)				
Japan District (9 of 18)				
John R Cummings ES	AF		K-6	537
Robert D Edgren HS	AF	X	7-12	595
Sollars ES	AF	X	PK-6	957
Sullivans ES	N	X	PK-5	1401
Nile C Kinnick HS	N	X	9-12	558
Yokota East ES	AF		PK-6	844
Yokota West ES	AF	X	PK-6	472
Yokota HS	AF	X	7-12	693
Zama HS	A	X	7-12	629
Korea District (4 of 7)				
Osan ES	AF		PK-6	550
Osan HS	AF	X	7-12	282
Seoul ES	A		PK-6	1384
Seoul HS	A		7-12	1005
Okinawa District (8 of 12)				
Bob Hope PS	AF		PK-3	842
Amelia Earhart IS	AF		4-6	542
Kadena MS	AF		7-8	662
Kadena HS	AF		9-12	824
Stearley Heights ES	MC	X	K-6	675
William C Bechtel ES	MC		PK-6	1047
Zukeran ES	MC		PK-6	734
Kubasaki HS	MC	X	9-12	789

AMERICA (1 of 1)				
Cuba District (1 of 1)				
W T Sampson School	N		PK-12	393

Table B-7. Schools Represented or Visited During Interviews (Con'd)

DDESS (33 of 70)				
Antilles District (6 of 7)				
Antilles ES	A		PK-2	651
Antilles IS	A		3-5	566
Antilles MS	A	X	6-8	567
Antilles HS	A	X	9-12	603
Roosevelt Roads ES	N	X	PK-5	875
Roosevelt Roads HS	N		6-12	541
Camp LeJeune District (4 of 8)				
Tarawa Terrace I ES	MC		PK-3	346
Tarawa Terrace II ES	MC	X	PK-5	447
Breswter MS	MC		6-8	636
Camp LeJeune HS	MC	X	9-12	483
Fort Benning District (6 of 7)				
Edward A White ES	A		PK-5	379
Frank R Loyd ES	A		PK-5	399
Freddie Stowers ES	A	X	PK-5	565
Herbert J Dexter ES	A		PK-5	322
Rlichard G Wilson ES	A		PK-5	401
Don C Faith MS	A		6-8	685
Fort Bragg District (3 of 9)				
Pope ES	A		PK-4	291
Irwin MS	A	X	5-6	725
Albritton JHS	A	X	7-9	697
Fort Campbell District (7 of 8)				
Andre Lucas ES	A		PK-5	685
Barkley ES	A		PK-5	623
Jackson ES	A		PK-5	584
Marshall ES	A	X	PK-5	582
Wassom MS	A		6-8	403
Mahffey MS	A		6-8	394
Fort Campbell HS	A		9-12	582
Guam District (4 of 4)				
Andersen ES	AF	X	PK-5	976
Andersen MS	AF	X	6-8	366
Guam South ES/MS	N	X	PK-8	738
Guam HS	N	X	9-12	424
Robins AFB District (2 of 2)				
Linwood ES	AF	X	PK-6	361
Robins ES	AF	X	PK-6	434
Dahlgren District (0 of 1)				
Fort Jackson District (0 of 3)				
Fort Knox District (0 of 8)				
Fort Rucker District (0 of 2)				
Fort Stewart District (0 of 2)				
Laurel Bay District (0 of 2)				
Maxwell AFB District (0 of 1)				
Quantico District (0 of 4)				
West Point District (0 of 2)				

Table B-8. Categories and Components of DoDEA Quality of Eduacation

#	Quality of Education Categories and Components	Military	Parents	Admin	Teachers	Students	Board/SAC	Total
8	**Multiple measures of achievement**	**19**	**15**	**53**	**36**	**4**	**9**	**136**
X	Test scores (SAT, AP, NAEP, Terra Nova, DoDEA Writing Assessment)	7	9	20	18	3	3	60
	Customer (parents and military) satisfaction - responsive system, parents extend because of school	1		12	3			16
	College admission - acceptance and subsequent performance	4	3	3	4		2	16
	Low PTR - more attention w/ small class size, small school advantage			3	7	1	3	14
	Meet goals, objectives, benchmarks in Strategic Plan (based on President's/National Goals), plan for continuous improvement and assessment in all areas	1	2	8	3			14
	Graduation rate	1		3	1		1	6
	Accepted to best/top colleges, competitive for and receive scholarships	3		3				6
	School accreditation	2	1	1				4
5	**Teachers & Administrators**	**18**	**22**	**36**	**27**	**13**	**14**	**130**
X	Professional, high quality teachers; pride in work, high morale, diversity of experiences, zest for teaching, motivated, committed,	8	8	12	8	4	2	42
X	Well trained & qualified teachers; aware of current, successful teaching strategies; trained in the curriculum, use creative & innovative teaching techniques, collaborate; receive extensive professional development	5	7	11	8	4	2	37
	Teachers focus on students as individuals; care about them, motivate, challenge,explain, encourage, empathize; set high expectations, understand special needs of military children, prepare students for next grade, college, work; teach citizenship		6	10	7	1	6	30
	Teachers willing to help students-available, involved, flexible, give them more attention, in class all year	2			3	4	2	11
	Good, high quality school administrators-educational leaders, managers, proactive, involved	3	1	3	1		2	10
3	**Military-DoDEA Relationship & Parents**	**7**	**9**	**18**	**14**	**2**	**7**	**57**
X	Parents concerned and involved, partnership to educate students and help them learn; volunteer in classroom/school-support teacher/school, school events, involved at home: check homework, review tests, motivate, encourage, demand performance, insure child	5	5	13	9	1	3	36
	Communications(2-way) - parents-teachers-students; administrators-military, resolve problems	1	3	1	4	1	4	14
	Strong military & community relationship, collaborative effort to teach, teachers integrated into the community	1	1	4	1			7
5	**Curriculum**	**19**	**15**	**15**	**15**	**5**	**10**	**79**
X	Enriched program, wide variety & opportunities, large selection, diversity for all students at all schools (AP, Honors, Vocational Education, extracurricular activities, sports)	9	6	8	6	5	2	36
	Quality, strong, challenging curriculum	4	3	3	2		3	15
	Curriculum standards - followed, met, correct level, correlated for continuous learning (vertical/horizontal)		4	2	3		3	12
	Academic program focuses on basics (core curriculum)	4	1		2		2	9
	Quality educational curriculum available, provided to all - TAG, Spec Ed, ESL, accommodate all levels of performance	2	1	2	2			7

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Table B-8. Categories and Components of DoDEA Quality of Eduacation (Continued)

2	**Resources**	**12**	**5**	**9**	**10**		**8**	**44**
	Adequate resources- materials, books, technology, facilities, science labs, trips, extracurricular activities. Effectively managed, current	5	3	8	7		6	29
	Outstanding facilities	7	2	1	3		2	15
6	**Students**	**3**	**23**	**15**	**36**	**8**	**7**	**92**
	Students learn critical thinking, problem solving, creative thinking, decision making, writing, and study skills; apply, adapt to real life; are well rounded and involved in sports, extracurricular activities		7	3	12	2	2	26
	Students continue, advance, improve, go on to college or work and succeed in life	2	2	8	7	1		20
	Students excited, ready, actively engaged in learning, positive attitude, motivated, desire to learn	1	4	2	6	1	1	15
	Students develop social skills, high self-esteem, interaction with others, citizenship, values, deal effectively with others		3	2	4	1	2	12
	Students accept responsibility, understand material and curriculum, meet standards, perform well in class, well grounded in core subjects		2		5	2	1	10
	Students are challenged by teachers and parents - do homework, succeed to highest level of their capability		5		2	1	1	9
2	**Safety and Discipline**	**9**	**4**	**10**	**11**	**1**	**4**	**39**
	Safe environment (drugs, weapons)	4	2	6	5		3	20
	Discipline in school and classroom, no disrespect, teachers can teach	5	2	4	6	1	1	19
6	**General**	**14**	**20**	**12**	**22**	**3**	**4**	**75**
	Solid, strong quality education with emphasis on academic achievement, high goals and standards (curriculum, behavior)	5	3	1	4		1	14
	Cultural/social experience - diversity of experience	2	3	1	6	2		14
	Consistency in transition, continuity, predictability, not behind, competitive with peers in states	2	7	1		1	3	14
	Good school environment, positive climate/atmosphere where learning is important, student focus by all, teachers teach and students learn	2	2	3	7			14
	Demanding high expectations, accountability, standards for students, educators, parents, military of curriculum, behavior, discipline	3	2	3	3			11
	Support from higher headquarters, consistency throughout DoDEA, some autonomy at each level, each level appropriately focused on critical aspects of education		3	3	2			8
2	**Technology**	**3**	**2**	**6**	**8**	**1**		**20**
	Excellent technology to support education, available for distance learning	3	1	1	6			11
	Integration of technology to facilitate learning, teachers stay abreast of technology		1	5	2	1		9
39	**Total components**							
	# components commented on by each group	30	34	34	36	19	26	

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COMPARING DODEA WITH OTHER SCHOOL SYSTEMS

It is difficult to compare DoDEA with other systems because of its uniqueness as an educational system, however, both subjective and objective comparisons can be made.

1. Subjective Comparisons

Comments during interviews indicated that the stakeholder groups believe the DoDEA school system is above average. Most parents and students thought that the DoDEA school the student currently attended was better than the previous school they had attended. They also expressed satisfaction with the quality of most teachers, availability of resources, smaller class sizes, and ease of adapting to the DoDEA school. Most parents and students who had attended Fairfax County schools expressed satisfaction with the DoDEA schools and thought they were equivalent to or better in terms of the overall quality of education.

In the DDESS schools all stakeholder groups believed the quality of education was better than what was provided in the adjacent community. Students cannot attend DDESS schools unless their parents live on the installation. Some had attended local schools until they moved on the installation, and both parents and students indicated greater satisfaction with the DDESS schools. Many parents stated that they were willing to accept lower quality housing on the installation, than what they could live in off-base, because they wanted their children to attend the DDESS schools. The children of DDESS teachers live in the local community and attend those schools. The teachers stated that if they had a choice, they would have their children attend the DDESS schools.

OSD completed a study in 1997 that included an examination of military parents' perspectives on the quality of education provided by DDESS schools.[1] An opinion survey about the quality of DDESS schools was administered to a random sample of parents with children attending DDESS schools in the United States. Parents, installation commanders and DDESS personnel all expressed views that the quality of education was better in the DDESS schools than in adjacent school districts and they were opposed to the transfer of DDESS schools to the local public school district.

Even though parents could elaborate on their particular situation, there was no way to quantify their subjective assessments in a manner that would provide meaningful analysis and lead to logical conclusions. However, their assessments were significant for further understanding of the issues.

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[1] DMDC Report No. 97-013, A Study of Schools Serving Military Families in the U.S., October 1997.

2. Objective Comparisons

Military leaders and parents were concerned that DoDEA wanted to make comparisons to the national average, and as long as they were at or above it, they were doing well. DoDEA administrators indicated that they use the national average to compare standardized test results and rankings for various measurements because the relationship can be understood and interpreted without too much difficulty.

Based on other studies, research and stakeholders opinions there are several alternatives for making comparisons. DoDEA schools could be compared to:

- the best schools, districts or states
- school systems with similar demographics
- the largest school districts where many military students go to school, usually around the largest military installations
- the surrounding/adjacent school system (for DDESS schools)
- Fairfax County, VA schools
- benchmarks established by DoDEA in the 1995 Community Strategic Plan
- a set of national standards

Considerations relevant to these different alternatives are discussed below.

There is no realistic way to expect that a 224-school system can approximate the performance of the best single school, if one could be identified. The demographics and selection criteria for a magnet or private school are vastly different. DoDEA is a school system for all students and does not have the option to select out any students because of ability, aptitude, or other criteria. When looking at quality of education studies or more narrowly focused studies that look primarily at States, there is no state that excels in every category. Some states rank school districts or systems, but as with the state rankings, there is usually no district that is first in all categories.

A key issue is whether DoDEA should be compared to state school systems or large county school systems. Standardized test score results (NAEP, SAT/ACT, CTBS/Terra Nova) and other reports that provide comparative data in which DoDEA (or DoDDS and DDESS) is included, are comparisons based on state data. The Council of Chief State School Officers, a nationwide, nonprofit organization composed of public officials who lead departments responsible for elementary and secondary education in the states, also includes DoDEA. DoDEA has requested to be considered in the annual *Education Week* "Quality Counts" report, but has been denied because *Education Week* does not consider DoDEA equivalent to a state. The U.S. Department of Education, National Center for Education Statistics (NCES), which collects and analyzes data related to education in the United States and other nations, includes DoDDS data in some state level reports, but excludes them in national totals.

Based on NCES data, Tables B-9 and B-10 compare DoDEA to the state school systems and the largest 100 school districts in the United States.[2] If DoDEA was considered a state school system it would rank 47 of 52 by number of districts, 50 of 52 by number of schools, and 49 of 52 by student enrollment. If it was considered the equivalent of a large school district, it would rank 12th based on number of schools and 23rd based on enrollment. The Hawaii Department of Education and the District of Columbia Public Schools are counted as both a state system and a school district by the NCES.

Table B-9. State School System Data

	# Districts	# Schools	Enrollment
Highest	1,042	8,178	5,803,734
Median	180	1,353	659,256
Lowest	1	170	77,111
DoDEA	28	224	107,976

Table B-10. Largest 100 School Districts in the United States

	# Schools	Enrollment
Highest	1,543	1,107,853
Median	105	65,051
Lowest	46	44,694
DoDEA	224	107,976

In some cases, comparisons of DoDEA with other systems should take into account the unusual demographics of DoDEA students:

- At least one, if not both parents are employed.
- All families have adequate housing, food, clothing, and medical care.
- Families live in a relatively drug-free and low crime environment.
- The military community is well educated and understands the value of education.

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[2] Department of Education, NCES, Digest of Education Statistics 1999, 1999-036.

- The student population has a diverse cultural and ethnic background.
- The annual mobility rate among students in the schools exceeds 35%.

However, it may be difficult to find a school system that would have these demographics.

School districts where there are large concentrations of military students could serve as a basis of comparison. To determine where military dependent children reside, IDA coordinated with the Defense Manpower Data Center (DMDC) for a special report that provided the aggregate number of children ages 5-18, by state and base/installation as of 30 September 1999. The Services have military installations in 46 of the 50 states. The military parents are assigned to more than 300 installations and organizations not on military installations. The five largest military installations from each service were identified from the report (Table B-11). The Military Impacted Schools Association (Bellvue, NE) provided the names of the largest school districts adjacent to those installations. In addition to adjacent school districts, there are DDESS school districts on five of the installations. Table B-12 shows the total number of children at the five largest installations for each Service and the combined total. It also shows the children as the percentage of the total number of military children living in the U.S. and worldwide. The DoDEA military student population is approximately 12% of the total military student population.

Table B-11. Largest Military Installations by Service with Children 5-18

Base	Military children	School District(s)
Army		
Ft. Hood, TX	24,409	Killeen Independent School District
Ft. Bragg, NC	21,772	DDESS & Cumberland County
Ft. Campbell, KY	13,868	DDESS, Clarksville-Montgomery County, TN & Christian County, KY
Ft. Stewart, GA	10,664	DDESS & Liberty County
Ft. Lewis, WA	9,645	Clover Park School District
Navy		
Norfolk Naval Base, VA	13,061	Virginia Beach City Schools
San Diego Naval Station, CA	4,544	San Diego Unified School District
Jacksonville NAS, FL	4,251	Clay County & Duval County
North Island NAS, CA	4,204	Coronado Unified School District
Little Creek NAB, VA	4,136	Virginia Beach City Schools
Air Force		
Eglin AFB, FL	9,767	Okaloosa County
Pentagon (AF), VA	7,643	Fairfax County, VA, Montgomery County, & Prince Georges County, MD
Langley AFB, VA	6,113	York County
Hickam AFB, HI	5,963	Central Administration School District
Offutt AFB, NE	5,471	Bellevue Public Schools
Marine Corps		
Camp Lejeune MCB, NC	7,904	DDESS & Onslow County
Camp Pendelton MCAS, CA	6,898	Fallbrook Union ES District & Oceanside Unified School District
Cherry Point MCAS, NC	4,523	New Bern - Craven County
MCCDC Quantico, VA	3,603	DDESS & Prince William County
29 Palms MCAGCS, CA	2,301	Morongo Valley Unified School District

Source: DMDC Family Database, Sep 99.

Table B-12. Children at the Largest Installations

	# Children	% of Children in CONUS	% of Children Worldwide
Army	80,358	35.1%	27.9%
Navy	30,196	24.1%	14.3%
Air Force	34,957	17.8%	14.8%
Marine Corps	25,229	46.9%	41.3%
All Services	170,740	28.2%	21.5%

A direct comparison for the 14 DDESS school districts located on CONUS military installations would be the adjacent school districts. According to DoD Directive the district superintendent is required to submit an annual statement to the Military Department concerned showing comparability of the education provided by the DDESS school district.[3] The statement is to include a comparison of educational services and programs, school plant and facilities, budget and per-pupil expenditures, and all associated activities and services that are provided. The comparison should show that to the maximum extent practicable that there is equivalency in quality and availability of education with the local school districts. Based on interviews with DDESS administrators, the DDESS districts do not openly compare themselves to the adjacent districts and this report is not submitted.

The Fairfax County School System was mentioned frequently for several reasons. It was viewed as a large school system with a good reputation, that many military leaders and families were familiar with because their children had attended schools there. However, while there is a large number of military children who attend school in Fairfax County, there is a large concentration of military children in the entire Washington D.C. Metropolitan Area. There are seven counties and cities in the Washington, D.C. Metropolitan Area where the majority of military personnel live and their children attend school (Table B-13). Based on the DMDC data there are 32,408 children, age 5-18, living in the metropolitan area (based on where the military parent is assigned, not where they live). This is 5.3% of the military children living in the United States and 6.3% of the children who attend the metropolitan area schools.

Table B-13. Washington D.C. Metropolitan Area School Data

County	# Schools	1999 Enrollment
Fairfax County, VA	205	151,418
Montgomery County, MD	189	127,852
Prince George's County, MD	184	130,140
Prince William County, VA	71	51,621
Loudon County, VA	45	25,579
Arlington County, VA	30	18,564
Alexandria City, VA	16	11,001
Total	740	516,175
DoDEA	224	107,976

Source: Metropolitan Area Bureau of Education Guide, FY 2000

The DoDEA Community Strategic Plan (CSP) has 10 goals and 42 benchmarks. In 1999, DoDEA contracted with The McKenzie Group, Inc., an educational consulting firm, to study the CSP and assist in the strategic planning for the DoDEA CSP, 2001-2006.[4] They administered a survey to a sample of stakeholders and conducted focus group sessions and individual interviews at selected sites in DoDDS and DDESS. The purpose was to assess how well DoDEA had achieved its goals, and identify areas where improvement was needed. The results of the report are based on the perceptions of the stakeholders with little objective data.

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[3] DoD Directive 1342.16, Provision of Free Public Education for Eligible Dependent Children Pursuant to Section 6, Public Law 81-874 as Amended, October 16, 1987.

[4] DoDEA 2001-2006 Community Strategic Planning Research Report, http://www.odedodea.edu/2001_strategic_plan/research_study/index.html

There are no agreed on national standards for measuring the quality of education of a school system. As mentioned previously, there are different organizations that use selected data elements for comparison, but the only national assessment currently recognized and conducted is the National Assessment of Educational Progress (NAEP) that measures student performance trends in mathematics, reading, science and writing.

In the analytical evaluations of DoDEA and its schools, a variety of methods are used. These include comparisons with states, large school districts, districts adjacent to military bases or well known to military families, and national performance statistics. The issue under consideration and the availability of relevant data determine the methods employed.

Appendix C
STUDENT ACHIEVEMENT

Appendix C
STUDENT ACHIEVEMENT

TEST SCORES

Tables C-1 to C-6 give NAEP scores by state, DoDDS and DDESS. Enrollment for 1999 is also given to provide a comparison of the size of the states.

The sources of the NAEP scores are:

NAEP Reading: Report Card for the Nation and the States, National Center for Educational Statistics, March 1999

NAEP 1998 Writing: Report Card for the Nation and the States, National Center for Educational Statistics, September 1999

NAEP 1994 Mathematics: Report Card for the Nation and the States, National Center for Educational Statistics, February 1997

NAEP 1994 Science: Report Card for the Nation and the States, National Center for Educational Statistics, May 1997

The sources for enrollment data are:

Education Week, Quality Counts 2000, January 13, 2000.

Data from "Early Estimates of Public Elementary and Secondary Education Statistics: School Year 1998-1999", National Center for Educational Statistics, 1999.

Tables C-7 to C-9 provide CTBS/Terra Nova results on school districts in Maryland, New Mexico, and Nevada compared to DoDDS and DDESS.

Tables C-10 to C-12 provide SAT data used for analysis of test scores related to participation rates.

The appendix concludes with two annexes. Annex 1 provides the detailed development of an equation, and subsequent analysis that can be used to compare DoDDS and national test scores and DDESS and national test scores for 1999 SAT math and verbal test scores.

Annex 2 provides a theoretical model for understanding DoDEA student test scores.

Table C-1. NAEP Grade 4 Reading (1998)

State	1999 Enrollment (000)	NAEP Score
Connecticut	545	232
Montana	161	226
New Hampshire	195	226
Maine	220	225
Massachusetts	964	225
Wisconsin	888	224
Iowa	503	223
DoDDS	**76**	**223**
Colorado	699	222
Kansas	470	222
Minnesota	858	222
Oklahoma	627	220
DDESS	**36**	**220**
Wyoming	94	219
Kentucky	646	218
Rhode Island	154	218
Virginia	1,100	218
Michigan	1,700	217
North Carolina	1,200	217
Texas	3,900	217
Washington	1,000	217
Missouri	921	216
New York	2,900	216
West Virginia	296	216
Maryland	837	215
Utah	447	215
Nation	**46,100**	**215**
Oregon	543	214
Delaware	113	212
Tennessee	909	212
Alabama	759	211
Georgia	1,400	210
South Carolina	644	210
Arkansas	456	209
Nevada	311	208
Arizona	829	207
Florida	2,300	207
New Mexico	329	206
Louisiana	754	204
Mississippi	502	204
California	5,800	202
Hawaii	187	200
District of Columbia	80	182

Table C-2. NAEP Grade 8 Reading (1998)

State	1999 Enrollment (000)	NAEP Score
Maine	220	273
Connecticut	545	272
Montana	161	270
Massachusetts	964	269
DoDDS	**76**	**269**
DDESS	**36**	**269**
Kansas	470	268
Minnesota	858	267
New York	2,900	266
Oregon	543	266
Virginia	1,100	266
Wisconsin	888	266
Oklahoma	627	265
Utah	447	265
Washington	1,000	265
Colorado	699	264
North Carolina	1,200	264
Missouri	921	263
Kentucky	646	262
Maryland	837	262
Rhode Island	154	262
Texas	3,900	262
West Virginia	296	262
Wyoming	94	262
Arizona	829	261
Nation	**46,100**	**261**
Tennessee	909	259
New Mexico	329	258
Georgia	1,400	257
Nevada	311	257
Arkansas	456	256
Delaware	113	256
Alabama	759	255
South Carolina	644	255
California	5,800	253
Florida	2,300	253
Louisiana	754	252
Mississippi	502	251
Hawaii	187	250
District of Columbia	80	236

Table C-3. NAEP Grade 8 Writing (1998)

State	1999 Enrollment (000)	NAEP Score
Connecticut	545	165
DDESS	**36**	**160**
DoDDS	**76**	**156**
Maine	220	155
Massachusetts	964	155
Texas	3,900	154
Virginia	1,100	153
Wisconsin	888	153
Oklahoma	627	152
Colorado	699	151
Montana	161	150
North Carolina	1,200	150
Oregon	543	149
Minnesota	858	148
Rhode Island	154	148
Tennessee	909	148
Washington	1,000	148
Nation	**46,100**	**148**
Maryland	837	147
Georgia	1,400	146
Kentucky	646	146
New York	2,900	146
Wyoming	94	146
Alabama	759	144
Delaware	113	144
West Virginia	296	144
Arizona	829	143
Utah	447	143
Florida	2,300	142
Missouri	921	142
California	5,800	141
New Mexico	329	141
Nevada	311	140
South Carolina	644	140
Arkansas	456	137
Louisiana	754	136
Hawaii	187	135
Mississippi	502	134
District of Columbia	80	126

Table C-4. NAEP Grade 4 Mathematics (1996)

State	**1999 Enrollment (000)**	**NAEP Score**
Connecticut	545	232
Maine	220	232
Minnesota	858	232
North Dakota	114	231
Wisconsin	888	231
Indiana	989	229
Iowa	503	229
Massachusetts	964	229
Texas	3,900	229
Montana	161	228
Nebraska	291	228
New Jersey	1,300	227
Utah	447	227
Colorado	699	226
Michigan	1,700	226
Pennsylvania	1,800	226
Missouri	921	225
Vermont	105	225
Washington	1,000	225
Alaska	134	224
North Carolina	1,200	224
Oregon	543	224
DoDDS	**76**	**224**
New York	2,900	223
Virginia	1,100	223
West Virginia	296	223
Wyoming	94	223
DDESS	**36**	**223**
Nation	**46,100**	**222**
Maryland	837	221
Kentucky	646	220
Rhode Island	154	220
Tennessee	909	219
Arizona	829	218
Nevada	311	218
Arkansas	456	216
Florida	2,300	216
Delaware	113	215
Georgia	1,400	215
Hawaii	187	215
New Mexico	329	214
South Carolina	644	213
Alabama	759	212
California	5,800	209
Louisiana	754	209
Mississippi	502	208
District of Columbia	80	187

Table C-5. NAEP Grade 8 Mathematics (1996)

State	1999 Enrollment (000)	NAEP Score
Iowa	503	284
Maine	220	284
Minnesota	858	284
North Dakota	114	284
Montana	161	283
Nebraska	291	283
Wisconsin	888	283
Connecticut	545	280
Vermont	105	279
Alaska	134	278
Massachusetts	964	278
Michigan	1,700	277
Utah	447	277
Colorado	699	276
Indiana	989	276
Oregon	543	276
Washington	1,000	276
Wyoming	94	275
DoDDS	**76**	**275**
Missouri	921	273
Nation	**46,100**	**271**
Maryland	837	270
New York	2,900	270
Texas	3,900	270
Virginia	1,100	270
Rhode Island	154	269
DDESS	**36**	**269**
Arizona	829	268
North Carolina	1,200	268
Delaware	113	267
Kentucky	646	267
West Virginia	296	265
Florida	2,300	264
California	5,800	263
Tennessee	909	263
Arkansas	456	262
Georgia	1,400	262
Hawaii	187	262
New Mexico	329	262
South Carolina	644	261
Alabama	759	257
Louisiana	754	252
Mississippi	502	250
District of Columbia	80	233

Table C-6. NAEP Grade 8 Science (1996)

State	1999 Enrollment (000)	NAEP Score
Maine	220	163
Montana	161	162
North Dakota	114	162
Wisconsin	888	160
Minnesota	858	159
Iowa	503	158
Wyoming	94	158
Massachusetts	964	157
Nebraska	291	157
Vermont	105	157
Utah	447	156
Colorado	699	155
Connecticut	545	155
Oregon	543	155
DoDDS	**76**	**155**
Alaska	134	153
Indiana	989	153
Michigan	1,700	153
DDESS	**36**	**153**
Missouri	921	151
Washington	1,000	150
Virginia	1,100	149
Nation	**46,100**	**148**
Kentucky	646	147
North Carolina	1,200	147
Rhode Island	154	147
West Virginia	296	147
New York	2,900	146
Arizona	829	145
Maryland	837	145
Texas	3,900	145
Arkansas	456	144
Tennessee	909	143
Delaware	113	142
Florida	2,300	142
Georgia	1,400	142
New Mexico	329	141
Alabama	759	139
South Carolina	644	139
California	5,800	138
Hawaii	187	135
Mississippi	502	133
Louisiana	754	132
District of Columbia	80	113

Table C-7. Maryland School District, DoDDS and DDESS 1999 CTBS Scores

District	Enrollment	Gr. 4 Read	Gr. 4 Lang	Gr. 4 Math	Gr. 6 Read	Gr. 6 Lang	Gr. 6 Math	Average
Montgomery	127,933	65	67	72	72	69	81	71
Howard	41,858	69	72	73	68	68	72	70
DoDDS	**76,000**	**68**	**66**	**64**	**65**	**69**	**65**	**66**
Garrett	5,082	71	66	62	66	66	62	66
Carroll	27,224	61	64	65	66	64	68	65
Harford	38,909	68	66	62	62	64	65	65
DDESS	**36,000**	**66**	**63**	**64**	**62**	**66**	**64**	**64**
Queen Anne's	6,888	64	67	68	59	59	64	64
Frederick	35,383	56	65	61	62	61	69	62
Kent	2,891	56	61	62	64	60	62	61
Talbot	4,590	56	58	60	60	54	69	60
Worcester	6,916	58	54	64	52	51	61	57
Charles	22,263	64	56	55	54	55	51	56
Anne Arundel	74,079	54	56	58	53	55	58	56
Baltimore County	105,914	55	60	56	56	54	52	56
Washington	20,159	53	56	55	52	50	57	54
Wicomico	14,330	50	56	46	56	56	54	53
Allegany	10,978	51	51	50	56	54	55	53
Cecil	15,550	49	56	53	50	50	51	52
State-Wide	**841,671**	**50**	**54**	**49**	**51**	**50**	**51**	**51**
Caroline	5,685	46	51	50	51	49	48	49
St. Mary's	14,743	48	51	42	48	49	49	48
Dorchester	5,143	48	50	37	44	45	36	43
Somerset	3,113	51	49	40	41	40	35	43
Prince George's	130,259	40	40	33	40	41	39	39
Baltimore City	106,540	34	33	24	26	25	19	27

Source: Web site: www.msp.msde.state.md.ud

Table C-8. New Mexico School District, DoDDS and DDESS 1998 CTBS Scores

District	Enrollment	Gr. 4 Avg.	Gr. 6 Avg.	Gr. 8 Avg.	Average
DoDDS	**76,000**	**66.0**	**66.2**	**66.2**	**66.1**
DDESS	**36,000**	**64.6**	**64.2**	**63.0**	**63.9**
Alamagordo	8,075	62.8	58.9	61.3	61.0
Hobbs	8,208	66.5	55.9	55.6	59.3
Rio Rancho	9,719	59.3	53.4	60.1	57.6
Clovis	8,712	59.4	58.3	53.9	57.2
Las Cruces	22,403	58.1	52.8	56.5	55.8
Carlsbad	6,728	57.0	51.7	58.1	55.6
Farmington	10,421	56.2	56.3	53.2	55.2
Albuquerque	85,847	60.6	48.7	55.9	55.1
Roswell	10,673	50.4	54.6	54.5	53.2
Santa Fe	14,712	52.4	52.5	47.5	50.8
State-Wide	**325,000**	**52.9**	**47.4**	**49.3**	**49.9**
Los Lunas	8,571	54.1	42.7	47.5	48.1
Central Consolidated	7,488	48.0	26.2	36.2	36.8
Deming	5,569	40.7	32.5	36.6	36.6
Gadsden	12,666	31.9	38.7	26.1	32.2
Espanola	5,165	34.7	32.7	27.8	31.7
Gallup	14,261	26.3	26.7	27.8	26.9

Source: New Mexico State Department of Education, The Accountability Report, November 1999.

Table C-9. Nevada School District ,DoDDS and DDESS 1999 CTBS Scores

District	**Enroll-ment**	**Gr 4 Rd**	**Gr 4 Ma**	**Gr 4 Lg**	**Gr. 4 Sc**	**Gr 8 Rd**	**Gr 8 Ma**	**Gr 8 Lg**	**Gr 8 Sc**	**Gr 10 Rd**	**Gr 10 Ma**	**Gr 10 Lg**	**Gr 10 Sc**	**Av**
Eureka	378	62	64	68	73	82	77	79	78	77	59	74	75	72
DoDDS	**76,000**	**68**	**64**	**66**	**65**	**65**	**64**	**69**	**67**	**72**	**70**	**72**	**68**	**68**
DDESS	**36,000**	**66**	**64**	**63**	**67**	**62**	**59**	**66**	**67**	**68**	**64**	**66**	**64**	**65**
Douglas	7,302	58	60	55	62	60	64	56	62	65	64	63	68	61
Washoe	50,948	53	50	52	60	59	48	57	58	59	57	61	63	56
Carson City	8,288	49	42	47	55	58	59	51	60	64	64	60	67	56
Lander	1,857	54	49	56	59	52	47	57	56	60	58	61	64	56
Storey	532	55	52	48	59	68	55	55	63	58	47	47	66	56
Churchill	4,766	49	52	44	56	56	51	51	54	61	53	58	64	54
Elko	10,586	50	44	51	56	53	51	49	57	53	51	55	61	53
State-Wide	**296,621**	**49**	**53**	**52**	**53**	**53**	**49**	**51**	**52**	**53**	**52**	**56**	**58**	**53**
White Pine	1,836	53	49	52	60	49	42	45	60	53	50	54	60	52
Lincoln	1,081	52	49	40	54	44	38	40	50	69	56	62	69	52
Clark	190,822	48	56	53	50	52	49	49	49	50	51	55	56	52
Lyon	6,154	48	48	48	55	49	48	43	54	55	49	54	60	51
Hum-boldt	4,257	50	52	46	58	50	45	48	55	47	42	48	56	50
Nye	5,227	48	41	42	53	49	34	46	52	50	44	49	59	47
Pershing	999	48	34	43	52	44	32	44	53	49	40	48	55	45
Mineral	1,046	35	28	33	47	46	36	46	50	37	37	44	55	41
Esme-realda	114	29	33	23	27	39	50	37	47					36

Source: web site www.nsn.k12.nv.us

Table C-10. Initial SAT Data for the Elimination Procedure

State	% Partici-pation	Enroll-ment (000)	Fraction of Total Enrollment	% of Total Enrollment Participating	Total SAT Score	Contribution
New Jersey	80	1,300	0.02816	2.2530	1108	2496.31
Connecticut	80	545	0.01181	0.9445	1019	962.47
Massachusetts	78	964	0.02088	1.6289	1022	1664.74
Dist. of Columbia	77	80	0.00173	0.1334	972	129.71
New York	76	2,900	0.06282	4.7746	997	4760.27
New Hampshire	72	195	0.00422	0.3042	1038	315.71
Vermont	70	105	0.00227	0.1592	1020	162.41
Rhode Island	70	154	0.00334	0.2335	1003	234.23
Pennsylvania	70	1,800	0.03899	2.7296	993	2710.47
Maine	68	220	0.00477	0.3241	1010	327.32
Delaware	67	113	0.00245	0.1640	1000	164.01
Maryland	65	837	0.01813	1.1786	1014	1195.09
Virginia	65	1,100	0.02383	1.5489	1007	1559.77
Georgia	63	1,400	0.03033	1.9107	969	1851.47
North Carolina	61	1,200	0.026	1.5858	986	1563.55
South Carolina	61	644	0.01395	0.8510	954	811.87
Indiana	60	989	0.02143	1.2855	994	1277.79
Oregon	53	543	0.01176	0.6234	1050	654.62
Florida	53	2,300	0.04983	2.6408	997	2632.84
Washington	52	1,000	0.02166	1.1265	1051	1183.94
Hawaii	52	187	0.00405	0.2107	995	209.60
Alaska	50	134	0.0029	0.1451	1030	149.50
Texas	50	3,900	0.08449	4.2243	993	4194.77
California	49	5,800	0.12565	6.1567	1011	6224.44
Arizona	34	829	0.01796	0.6106	1049	640.52
Nevada	34	311	0.00674	0.2291	1029	235.71
Colorado	32	699	0.01514	0.4846	1076	521.39
Ohio	25	1,800	0.03899	0.9748	1102	1074.28
Montana	21	161	0.00349	0.0732	1093	80.06
Idaho	16	245	0.00531	0.0849	1082	91.88
Tennessee	13	909	0.01969	0.2560	1112	284.67
Illinois	12	2,000	0.04333	0.5199	1154	599.99
Kentucky	12	646	0.01399	0.1679	1094	183.72
New Mexico	12	329	0.00713	0.0855	1091	93.31
Michigan	11	1,700	0.03683	0.4051	1122	454.53
Wyoming	10	94	0.00204	0.0204	1097	22.34
Minnesota	9	858	0.01859	0.1673	1184	198.06
Kansas	9	470	0.01018	0.0916	1154	105.75
Alabama	9	759	0.01644	0.1480	1116	165.15
Missouri	8	921	0.01995	0.1596	1144	182.60
Nebraska	8	291	0.0063	0.0504	1139	57.44
Oklahoma	8	627	0.01358	0.1087	1127	122.46
Louisiana	8	754	0.01633	0.1307	1119	146.22
West Virginia	8	296	0.00641	0.0513	1039	53.30
Wisconsin	7	888	0.01924	0.1347	1179	158.76
Arkansas	6	456	0.00988	0.0593	1119	66.32
North Dakota	5	114	0.00247	0.0123	1199	14.81

Iowa	5	503	0.0109	0.0545	1192	64.94
Utah	5	447	0.00968	0.0484	1138	55.10
South Dakota	4	142	0.00308	0.0123	1173	14.43
Mississippi	4	502	0.01087	0.0435	1111	48.33
Total		46,161	1	42.3217		43172.99

Table C-11. States Whose Combined Average SAT Participation Rate Is 63%

State	% Partici-pation	Enroll-ment (000)	Fraction of Total Enrollment	% of Total Enrollment Participating	Total SAT Score	Contribution
New Jersey	80	1,300	0.0575	4.5997	1108	5096.51
Connecticut	80	545	0.0241	1.9284	1019	1964.99
Massachusetts	78	964	0.04264	3.3256	1022	3398.77
Dist. of Columbia	77	80	0.00354	0.2724	972	264.82
New York	76	2,900	0.12826	9.7479	997	9718.66
New Hampshire	72	195	0.00862	0.6210	1038	644.56
Vermont	70	105	0.00464	0.3251	1020	331.58
Rhode Island	70	154	0.00681	0.4768	1003	478.21
Pennsylvania	70	1,800	0.07961	5.5728	993	5533.75
Maine	68	220	0.00973	0.6617	1010	668.27
Delaware	67	113	0.005	0.3349	1000	334.85
Maryland	65	837	0.03702	2.4062	1014	2439.92
Virginia	65	1,100	0.04865	3.1623	1007	3184.45
Georgia	63	1,400	0.06192	3.9009	969	3780.00
North Carolina	61	1,200	0.05307	3.2375	986	3192.18
South Carolina	61	644	0.02848	1.7375	954	1657.54
Indiana	60	989	0.04374	2.6245	994	2608.76
Oregon	53	543	0.02402	1.2728	1050	1336.49
Florida	53	2,300	0.10172	5.3914	997	5375.25
Washington	52	1.000	0.04423	2.2999	1051	2417.16
Hawaii	52	187	0.00827	0.4301	995	427.92
Alaska	50	134	0.00593	0.2963	1030	305.22
Texas	50	3,900	0.17249	8.6245	993	8564.13
Total		22,610	1	63.2501		63723.98

Table C-12. States Whose Combined Average SAT Participation Rate Is 34%

State	% Partici-pation	Enroll-ment (000)	Fraction of Total Enrollment	% of Total Enrollment Participating	Total SAT Score	Contribution
Maryland	65	837	0.02282	1.4830	1014	1503.79
Georgia	63	1,400	0.03816	2.4043	969	2329.72
North Carolina	61	1,200	0.03271	1.9954	986	1967.43
South Carolina	61	644	0.01755	1.0708	954	1021.59
Indiana	60	989	0.02696	1.6176	994	1607.85
Oregon	53	543	0.0148	0.7845	1050	823.71
Florida	53	2,300	0.0627	3.3229	997	3312.92
Washington	52	1,000	0.02726	1.4175	1051	1489.76
Hawaii	52	187	0.0051	0.2651	995	263.74
Alaska	50	134	0.00365	0.1826	1030	188.12
Texas	50	3,900	0.10631	5.3155	993	5278.32
California	49	5,800	0.1581	7.7470	1011	7832.25
Arizona	34	829	0.0226	0.7683	1049	805.97
Nevada	34	311	0.00848	0.2882	1029	296.60
Colorado	32	699	0.01905	0.6097	1076	656.07
Ohio	25	1,800	0.04907	1.2267	1102	1351.78
Montana	21	161	0.00439	0.0922	1093	100.73
Idaho	16	245	0.00668	0.1069	1082	115.62
Tennessee	13	909	0.02478	0.3221	1112	358.20
Illinois	12	2,000	0.05452	0.6542	1154	754.97
Kentucky	12	646	0.01761	0.2113	1094	231.18
New Mexico	12	329	0.00897	0.1076	1091	117.41
Michigan	11	1,700	0.04634	0.5097	1122	571.93
Wyoming	10	94	0.00256	0.0256	1097	28.11
Minnesota	9	858	0.02339	0.2105	1184	249.23
Kansas	9	470	0.01281	0.1153	1154	133.06
Alabama	9	759	0.02069	0.1862	1116	207.81
Missouri	8	921	0.02511	0.2008	1144	229.77
Nebraska	8	291	0.00793	0.0635	1139	72.28
Oklahoma	8	627	0.01709	0.1367	1127	154.10
Louisiana	8	754	0.02055	0.1644	1119	183.99
West Virginia	8	296	0.00807	0.0645	1039	67.07
Wisconsin	7	888	0.02421	0.1694	1179	199.77
Arkansas	6	456	0.01243	0.0746	1119	83.46
North Dakota	5	114	0.00311	0.0155	1199	18.63
Iowa	5	503	0.01371	0.0686	1192	81.72
Utah	5	447	0.01218	0.0609	1138	69.33
South Dakota	4	142	0.00387	0.0155	1173	18.16
Mississippi	4	502	0.01368	0.0547	1111	60.81
Total		36,685	1	34.1301		34836.95

Appendix C, Annex 1. Adjustment for Participation Rate – Hypothetical Score Projection Procedure

1. Formulas

Throughout this section, "score" will mean either a math or a verbal SAT score minus 200. Thus, all scores run from a minimum of 0 to a maximum of 600. In particular, let $m = 600$.

For any given jurisdiction and either math or verbal SAT, let:

B = the (presumed known and positive) total number of students in that jurisdiction who are eligible to take the SAT.

$T(s)$ = the (presumed known) number of students who took the SAT and scored s or higher.

$p = T(0)/B$ = the fraction of eligible students who took the SAT. It is assumed throughout that $0 < p < 1$.

$t(s) = T(s)/B$ = the fraction of eligible students who took the SAT and scored s or higher, so

$$1 > p = t(0) \geq t(s) \geq t(s') \geq t(m) \geq 0$$

for all s and s' such that $0 \leq s \leq s' \leq m$.

$u(s) = t(s)/p = T(s)/pB$ = the fraction of SAT-taking students who scored s or higher, so

$$1 = u(0) \geq u(s) \geq u(s') \geq u(m) \geq 0$$

for all s and s' such that $0 \leq s \leq s' \leq m$.

$A(s,p,q)$ = the (unknown for $q > p$) number of students who would score s or higher if qB students were to take the SAT, where $p \leq q \leq 1$.

$a(s,p,q) = A(s,p,q)/B$ = the (unknown for $q > p$) fraction of eligible students who would score s or higher if qB students were to take the SAT, where $p \leq q \leq 1$.

$r(s,y)$ = the (unknown) marginal fractional rate at which students would score s or higher at the point at which yB students were taking the SAT. That is, for small fractional z, if $(y + z)B$ students were to take the SAT, then the number of students who score would s or higher would be about $A(s,p,y) + r(s,y)zB$. Therefore,

$$A(s,p,q) = T(s) + B\int_p^q r(s,y)dy,$$

and so

$$a(s,p,q) = t(s) + \int_p^q r(s,y)dy \tag{5.1}$$

for $p \leq q \leq 1$.

With this notation, the statement that "the smarter a student is, the more likely it is that that student will take the SAT" can be formalized as

$$u(s) \geq r(s,p) \geq r(s,y) \geq r(s,q) \geq 0 \tag{5.2}$$

for all relevant s and all y and q such that $p \leq y \leq q \leq 1$. Clearly, $r(s,y)$ must also satisfy the property that

$$1 = u(0) = r(0,y) \geq r(s,y) \geq r(s',y) \geq r(m,y) \geq 0 \tag{5.3}$$

for all relevant y and all s and s' such that $0 \leq s \leq s' \leq m$.

The goal of this section is to demonstrate that there exists at least one functional form for $r(s,y)$ that satisfies (5.2) and (5.3), and that, when plugged into (5.1), reproduces the results of the two data-driven approaches presented above.

A simple function that satisfies (5.2) and (5.3) is constructed as follows. First, note that $r(s,y)$ must, in general, be defined over the rectangle whose corners are

$$(s = 0, y = p),\ (s = m, y = p)\ (s = m, y = 1)\ (s = 0, y = 1).$$

Second, note that, by (5.2), $u(s) \geq r(s,p) \geq r(s,y)$ for all relevant s and y. Thus, $u(s)$ is an upper bound on $r(s,p)$, which is an upper bound on $r(s,y)$ for all relevant s and y. Accordingly, setting these upper bounds equal gives $r(s,p) = u(s)$ for all relevant s. This provides a reasonable specification for $r(s,y)$ over one side (the $y = p$ side) of that rectangle.

Third, note that, by (5.3), $r(0,1)$ must equal $u(0)$.

Fourth, note that $r(m,1)$ is essentially the likelihood that, if all but one eligible student were to take the SAT, then the one student who did not take the SAT would have scored the maximum had he or she done so. Accordingly, $r(m,1)$ is quite reasonably set equal to zero.

Fifth, given that $r(0,1) = 1 \times u(0)$, that $r(m,1) = 0 = 0 \times u(1)$, and that $r(s,1)$ must not exceed $u(s)$ for any s, a first-order estimate for $r(s,1)$ between $s = 0$ and $s = m$ is $u(s)$ times a term that is linear in s between 1 at $s = 0$ and 0 at $s = m$. This yields $r(s,1) = ((m - s)/m)u(s)$ for $0 \leq s \leq m$, which defines $r(s,y)$ over the $y = 1$ side of the rectangle.

Sixth, given that $r(s,y)$ is defined over two opposite sides of a rectangle, it is easy to define it anywhere inside that rectangle by linear interpolation. By the second step above, this interpolation should give that $r(s,y) = u(s)$ when $y = p$. By the fifth step above, this interpolation should give that $r(s,y) = u(s)((m - s)/m)$ when $y = 1$. Linearly interpolating over y between $y = p$ and $y = 1$ gives that

$$r(s,y) = u(s)\left(\frac{1-y}{1-p} + \frac{y-p}{1-p}\,\frac{m-s}{m}\right) \tag{5.4}$$

for $0 \le s \le m$ and $p \le y \le 1$. Note that this specification of $r(s,y)$ satisfies (5.2) and (5.3) above.

Plugging (5.4) into (5.1) gives that

$$\begin{aligned}
a(s,p,q) &= t(s) + \int_p^q \frac{u(s)}{1-p}\left(1 - y + \frac{(m-s)y-(m-s)p}{m}\right)dy \\
&= t(s)\left(1 + \frac{1}{p(1-p)}\int_p^q (1-(1-s/m)p-(s/m)y)dy\right) \\
&= t(s)\left(1 + \frac{1}{p(1-p)}\left((1-(1-s/m)p)(q-p)-(s/m)(q^2-p^2)/2\right)\right) \\
&= t(s)\left(1 + \frac{(q-p)}{p(1-p)}\left((1-(1-s/m)p)-(s/m)(q+p)/2\right)\right),
\end{aligned}$$

so

$$a(s,p,q) = t(s)\left(\frac{q}{p} - \frac{(q-p)^2 s}{2p(1-p)m}\right). \tag{5.5}$$

2. Using Equation (5.5) to Compare DoDDS's and National 1999 SAT Scores

As discussed above, the 1999 national SAT participation rate was 43% and the 1999 DoDDS SAT participation rate was 63%. Thus, equation (5.5) can be used to project the nation's scores at 43% participation to hypothetical scores that the nation might have achieved at 63% participation. If these projected national scores are comparable with DoDDS's scores, then this provides a theoretical explanation for the data-driven results of Sections 3 and 4 above.

Equation (5.5) projects scores from a 43% participation rate to a 63% participation rate by setting $p = 0.43$ and $q = 0.63$. Doing this, along with setting $m = 600$, gives

$$a(s,.43,.63) = t(s)(1.4651 - 0.000136s). \tag{5.6}$$

This equation is used to calculate values for Tables 1 and 2 as follows.

Consider Table 1. The first column of that table is just a list of possible "math-SAT-minus-200" scores, s_i, running from $s_1 = 600$ down to $s_{61} = 0$. The i^{th} row of the second column gives $u(s_i)$, which, here, is the fraction of students who scored s_i or higher on the math SAT out of all of the students in the nation who took the 1999 SAT. These data were obtained on May 31, 2000, from the College Board Internet site at

http://www.collegeboard.org/index_this/sat/cbsenior/stats/stat001b.html

Let $s_0 = 0$. Then the i^{th} row of the third column gives the value of $s_i(u(s_{i-1}) - u(s_i))$. Therefore, except for rounding in the second column, the average national math SAT score (minus 200) would equal the sum of the terms in the third column. This sum is 311.68 and the national average (minus 200) is 311, so this rounding had a very small impact.

The i^{th} row of the fourth column gives $t(s_i) = pu(s_i) = 0.43u(s_i)$, which, here, is the fraction of students who took the SAT and scored s_i or higher on the math portion, out of all of the students in the nation eligible to take the 1999 SAT. The i^{th} row of the fifth column gives the value of $a(s_i,.43,.63)$ as computed by equation (5.6). The i^{th} row of the sixth column gives the value of $a(s_i,.43,.63)/q = a(s_i,.43,.63)/.63$, which, here, is the projected fraction of students who would score s_i or higher on the math SAT out of all of the students in the nation who would have taken the 1999 SAT at the 1999 national participation rate been 63%.

The i^{th} row of the seventh column gives the value of

$$s_i(a(s_{i-1},.43,.63) - a(s_i,.43,.63))/.63.$$

Thus, the projected average national math SAT score (minus 200) equals the sum of the terms in the seventh column. This sum is 306.42, and so the projection from 43% participation to 63% participation gives that the average national math SAT score would drop from 511.68 to 506.42.

The last two columns of Table 1 give corresponding data for DoDDS. The i^{th} row of the eighth column gives the DoDDS value for $u(s_i)$, which is the fraction of students who scored s_i or higher on the math SAT out of all of the DoDDS students who took the 1999 SAT. These data were obtained from DoDEA on April 6, 2000. The average DoDDS math SAT score (minus 200) is the sum of the terms in the ninth column.

Table 2 gives the corresponding data for the verbal portion of the 1999 SAT.

Table 1. Distribution and Projection of 1999 Math SAT Scores for the Nation and DoDDS

	Nation						DoDDS	
s_i	$u(s_i)$	$s_i \times (u(s_{i-1}) - u(s_i))$	$t(s_i)$	$a(s_i,p,q)$	$a(s_i,p,q)/q$	$(s_i/q) \times a((s_{i-1},p,q) - a(s_i,p,q))$	$u(s_i)$	$s_i \times (u(s_{i-1}) - u(s_i))$
600	0.01	6.0	0.0043	0.005949	0.009443	5.665762	0.001	0.60
590	0.01	0.0	0.0043	0.005955	0.009452	0.005477	0.003	1.18
580	0.01	0.0	0.0043	0.005961	0.009462	0.005384	0.005	1.16
570	0.01	0.0	0.0043	0.005967	0.009471	0.005291	0.007	1.14
560	0.02	5.6	0.0086	0.011945	0.018960	5.314036	0.009	1.12
550	0.02	0.0	0.0086	0.011957	0.018979	0.010211	0.010	0.55
540	0.02	0.0	0.0086	0.011968	0.018997	0.010025	0.011	0.54
530	0.03	5.3	0.0129	0.017970	0.028524	5.049034	0.017	3.18
520	0.04	5.2	0.0172	0.023983	0.038069	4.963423	0.023	3.12
510	0.05	5.1	0.0215	0.030008	0.047632	4.877441	0.027	2.04
500	0.06	5.0	0.0258	0.036045	0.057215	4.791087	0.037	5.00
490	0.07	4.9	0.0301	0.042094	0.066815	4.704362	0.045	3.92
480	0.08	4.8	0.0344	0.048154	0.076435	4.617266	0.052	3.36

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470	0.09	4.7	0.0387	0.054226	0.086072	4.529799	0.061	4.23
460	0.11	9.2	0.0473	0.066340	0.105302	8.845490	0.082	9.66
450	0.13	9.0	0.0559	0.078478	0.124568	8.669906	0.092	4.50
440	0.15	8.8	0.0645	0.090639	0.143872	8.493578	0.109	7.48
430	0.17	8.6	0.0731	0.102824	0.163213	8.316509	0.121	5.16
420	0.19	8.4	0.0817	0.115032	0.182590	8.138696	0.149	11.76
410	0.22	12.3	0.0946	0.133324	0.211625	11.90406	0.173	9.84
400	0.24	8.0	0.1032	0.145584	0.231086	7.784556	0.199	10.40
390	0.26	7.8	0.1118	0.157868	0.250585	7.604423	0.229	11.70
380	0.29	11.4	0.1247	0.176253	0.279767	11.08947	0.254	9.50
370	0.32	11.1	0.1376	0.194674	0.309006	10.81824	0.288	12.58
360	0.35	10.8	0.1505	0.213129	0.338300	10.54591	0.320	11.52
350	0.38	10.5	0.1634	0.231620	0.367650	10.27246	0.344	8.40
340	0.41	10.2	0.1763	0.250145	0.397056	9.997899	0.381	12.58
330	0.46	16.5	0.1978	0.280920	0.445904	16.11998	0.406	8.25
320	0.49	9.6	0.2107	0.299527	0.475440	9.451373	0.448	13.44
310	0.52	9.3	0.2236	0.318169	0.505031	9.173283	0.478	9.30
300	0.56	12	0.2408	0.342971	0.544399	11.81050	0.514	10.80
290	0.58	5.8	0.2494	0.355560	0.564380	5.794552	0.552	11.02
280	0.61	8.4	0.2623	0.374307	0.594139	8.33233	0.585	9.24
270	0.65	10.8	0.2795	0.399232	0.633702	10.68208	0.632	12.69
260	0.68	7.8	0.2924	0.418056	0.663581	7.768538	0.647	3.90
250	0.71	7.5	0.3053	0.436915	0.693516	7.483672	0.673	6.50
240	0.74	7.2	0.3182	0.455809	0.723506	7.197692	0.718	10.80
230	0.77	6.9	0.3311	0.474738	0.753552	6.910598	0.757	8.97
220	0.80	6.6	0.3440	0.493702	0.783654	6.622390	0.781	5.28
210	0.82	4.2	0.3526	0.506524	0.804006	4.274028	0.808	5.67
200	0.84	4.0	0.3612	0.519369	0.824396	4.077929	0.832	4.80
190	0.86	3.8	0.3698	0.532238	0.844823	3.881087	0.855	4.37
180	0.89	5.4	0.3827	0.551325	0.875119	5.453407	0.873	3.24
170	0.90	1.7	0.3870	0.558046	0.885788	1.813599	0.892	3.23
160	0.92	3.2	0.3956	0.570985	0.906326	3.286106	0.918	4.16
150	0.93	1.5	0.3999	0.577736	0.917041	1.607197	0.930	1.80
140	0.94	1.4	0.4042	0.584497	0.927774	1.502649	0.943	1.82
130	0.95	1.3	0.4085	0.591271	0.938526	1.397731	0.958	1.95
120	0.96	1.2	0.4128	0.598056	0.949296	1.292441	0.968	1.20
110	0.97	1.1	0.4171	0.604853	0.960085	1.186780	0.972	0.44
100	0.97	0.0	0.4171	0.605421	0.960985	0.090041	0.980	0.80
90	0.98	0.9	0.4214	0.612235	0.971802	0.973508	0.984	0.36
80	0.98	0.0	0.4214	0.612808	0.972712	0.072775	0.985	0.08
70	0.99	0.7	0.4257	0.619640	0.983556	0.759122	0.988	0.21
60	0.99	0.0	0.4257	0.620219	0.984475	0.055138	0.989	0.06
50	0.99	0.0	0.4257	0.620798	0.985394	0.045949	0.990	0.05
40	0.99	0.0	0.4257	0.621377	0.986313	0.036759	0.994	0.16
30	0.99	0.0	0.4257	0.621956	0.987232	0.027569	0.995	0.03
20	0.999	0.2	0.4296	0.628195	0.997134	0.198043	0.996	0.02
10	0.999	0.0	0.4296	0.628779	0.998062	0.009273	0.996	0.00
0	1	0	0.4300	0.629993	0.999989	0	1	0
Sum	—	311.68	—	—	—	306.4179	—	300.86

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Table 2. Distribution and Projection of 1999 Verbal SAT Scores for the Nation and DoDDS

	Nation						DoDDS	
s_i	$u(s_i)$	$s_i \times (u(s_{i-1}) - u(s_i))$	$t(s_i)$	$a(s_i,p,q)$	$a(s_i,p,q)/q$	$(s_i/q) \times a((s_{i-1},p,q) - a(s_i,p,q))$	$u(s_i)$	$s_i \times (u(s_{i-1}) - u(s_i))$
600	0.001	0.6	0.00043	0.000595	0.000944	0.566576	0.003	1.80
590	0.01	5.3	0.0043	0.005955	0.009452	5.019676	0.004	0.59
580	0.01	0.0	0.0043	0.005961	0.009462	0.005384	0.005	0.58
570	0.01	0.0	0.0043	0.005967	0.009471	0.005291	0.007	1.14
560	0.01	0.0	0.0043	0.005972	0.009480	0.005198	0.010	1.68
550	0.02	5.5	0.0086	0.011957	0.018979	5.224247	0.014	2.20
540	0.02	0.0	0.0086	0.011968	0.018997	0.010025	0.016	1.08
530	0.03	5.3	0.0129	0.017970	0.028524	5.049034	0.019	1.59
520	0.03	0.0	0.0129	0.017988	0.028552	0.014481	0.025	3.12
510	0.04	5.1	0.0172	0.024007	0.038106	4.872707	0.029	2.04
500	0.05	5.0	0.0215	0.030038	0.047679	4.786446	0.035	3.00
490	0.06	4.9	0.0258	0.036080	0.057270	4.699814	0.044	4.41
480	0.07	4.8	0.0301	0.042135	0.066880	4.612811	0.056	5.76
470	0.08	4.7	0.0344	0.048201	0.076509	4.525436	0.069	6.11
460	0.09	4.6	0.0387	0.054273	0.086156	4.437690	0.083	6.44
450	0.11	9.0	0.0473	0.066404	0.105404	8.661551	0.104	9.45
440	0.12	4.4	0.0516	0.072511	0.115097	4.265169	0.124	8.80
430	0.14	8.6	0.0602	0.084679	0.134410	8.304534	0.133	3.87
420	0.17	12.6	0.0731	0.102923	0.163370	12.163210	0.153	8.40
410	0.18	4.1	0.0774	0.109083	0.173147	4.008614	0.170	6.97
400	0.21	12.0	0.0903	0.127386	0.202200	11.621140	0.202	12.80
390	0.24	11.7	0.1032	0.145725	0.231309	11.352330	0.233	12.09
380	0.26	7.6	0.1118	0.158020	0.250826	7.416493	0.264	11.78
370	0.30	14.8	0.1290	0.182507	0.289693	14.380820	0.298	12.58
360	0.33	10.8	0.1419	0.200950	0.318969	10.539230	0.328	10.80
350	0.36	10.5	0.1548	0.219429	0.348300	10.265960	0.356	9.80
340	0.39	10.2	0.1677	0.237943	0.377687	9.991586	0.387	10.54
330	0.43	13.2	0.1849	0.262599	0.416823	12.914970	0.425	12.54
320	0.46	9.6	0.1978	0.281189	0.446331	9.442461	0.470	14.40
310	0.50	12.4	0.2150	0.305932	0.485607	12.175410	0.506	11.16
300	0.53	9.0	0.2279	0.324598	0.515235	8.888510	0.540	10.20
290	0.57	11.6	0.2451	0.349429	0.554650	11.430280	0.579	11.31
280	0.61	11.2	0.2623	0.374307	0.594139	11.056920	0.620	11.48
270	0.64	8.1	0.2752	0.393090	0.623953	8.049784	0.648	7.56
260	0.67	7.8	0.2881	0.411908	0.653822	7.766125	0.687	10.14
250	0.71	10.0	0.3053	0.436915	0.693516	9.923308	0.721	8.50
240	0.73	4.8	0.3139	0.449649	0.713729	4.851186	0.751	7.20
230	0.76	6.9	0.3268	0.468572	0.743766	6.908463	0.777	5.98
220	0.79	6.6	0.3397	0.487531	0.773858	6.620348	0.802	5.50
210	0.82	6.3	0.3526	0.506524	0.804006	6.331119	0.831	6.09
200	0.84	4.0	0.3612	0.519369	0.824396	4.077929	0.848	3.40
190	0.86	3.8	0.3698	0.532238	0.844823	3.881087	0.876	5.32
180	0.88	3.6	0.3784	0.545131	0.865287	3.683503	0.893	3.06
170	0.90	3.4	0.3870	0.558046	0.885788	3.485176	0.905	2.04
160	0.92	3.2	0.3956	0.570985	0.906326	3.286106	0.921	2.56
150	0.93	1.5	0.3999	0.577736	0.917041	1.607197	0.932	1.65
140	0.94	1.4	0.4042	0.584497	0.927774	1.502649	0.942	1.40
130	0.95	1.3	0.4085	0.591271	0.938526	1.397731	0.947	0.65
120	0.96	1.2	0.4128	0.598056	0.949296	1.292441	0.958	1.32
110	0.97	1.1	0.4171	0.604853	0.960085	1.186780	0.968	1.10
100	0.97	0.0	0.4171	0.605421	0.960985	0.090041	0.972	0.40
90	0.98	0.9	0.4214	0.612235	0.971802	0.973508	0.981	0.81
80	0.98	0.0	0.4214	0.612808	0.972712	0.072775	0.983	0.16
70	0.98	0.0	0.4214	0.613381	0.973621	0.063678	0.986	0.21

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60	0.99	0.6	0.4257	0.620219	0.984475	0.651233	0.990	0.24
50	0.99	0.0	0.4257	0.620798	0.985394	0.045949	0.991	0.05
40	0.99	0.0	0.4257	0.621377	0.986313	0.036759	0.993	0.08
30	0.99	0.0	0.4257	0.621956	0.987232	0.027569	0.994	0.03
20	0.99	0.0	0.4257	0.622535	0.988151	0.018379	0.995	0.02
10	0.999	0.1	0.4296	0.628779	0.998062	0.099105	0.996	0.01
0	1	0	0.4300	0.629993	0.999989	0	1	0
Sum	—	305.7	—	—	—	300.6439	—	305.99

The "calculated" data in Table 3 are based on the bottom lines of Tables 1 and 2, with the floor of 200 being added back in. These results are consistent with the hypothesis that DoDDS performance on the SAT in 1999 is about equal to the national average when participation rates are taken into consideration.

. Using Equation (5.5) to Compare DDESS's and National 1999 SAT Scores

DDESS had lower average SAT scores than the nation in 1999, and projecting those scores from DDESS's 34% participation to the nations 43% participation can only lower them further. Thus, such projections cannot change the hypothesis that DoDDS performance on the SAT in 1999 is below the national average (whether or not participation rates are taken into account). Still, equation (5.5) can be used to estimate how far the DDESS average scores would be below national average scores if participation rates are considered. In particular, equation (5.5) can be used to project scores from a 34% participation rate to a 43% participation rate by setting $p = 0.34$ and $q = 0.43$. Doing this, along with setting $m = 600$, gives

$$a(s,.34,.43) = t(s)(1.2647 - 0.00003s). \qquad (5.7)$$

Table 3. Results of Projecting the Nation's 1999 SAT Scores to the DoDDS Participation Rate

	Math	Verbal	Total
Reported 1999 Average SAT Scores for the Nation at its 43% Participation Rate	511	505	1017
Calculated 1999 Average SAT Scores for the Nation at its 43% Participation Rate	511.68	505.70	1017.38
Calculated 1999 Average SAT Scores for the Nation Projected to a 63% Participation Rate	506.42	500.64	1007.06
Calculated 1999 Average SAT Scores for DoDDS at its 63% Participation Rate	500.86	505.99	1006.85
Reported 1999 Average SAT Scores for DoDDS at its 63% Participation Rate	501	506	1007

Equation (5.7) was used to calculate values analogous to those presented in Tables 1 and 2. The results of those calculations are given in Table 4.

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Table 4. Results of Projecting the DDESS 1999 SAT Scores to the Nation's Participation Rate

	Math	Verbal	Total
Reported 1999 Average SAT Scores for DDESS at its 34% Participation Rate	474	483	—
Calculated 1999 Average SAT Scores for DDESS at its 34% Participation Rate	473.65	482.57	956.22
Calculated 1999 Average SAT Scores for DDESS Projected to a 43% Participation Rate	472.59	481.44	954.03
Calculated 1999 Average SAT Scores for the Nation at its 43% Participation Rate	511.68	505.70	1017.38
Reported 1999 Average SAT Scores for the Nation at its 43% Participation Rate	511	505	1017

Appendix C, Annex 2. A Theoretical Model of DoDEA Student Scores

For any set of students, S, and any academic test, t, let:

$s_t(x,S)$ = the probability that a randomly (i.e., uniformly and independently) chosen student from S would score at least x on test t if that student were to take that test,

$a_t(S)$ = the (expected) average score that would be achieved by the students in S on test t if all of those students were to take that test.

For any given school grade, let

M = the set of DoDEA (military) students in that grade,

N = the set of the nation's public school students in that grade,

L = the subset of the students in N whose parents' or guardian's intelligence levels or household incomes are below that of an E-5 over 6,

K = the subset of the students in N who are not in L,

O = a subset of K that consists on a statistically insignificant number of students,

H = the subset of the students in K who are not in O.

Note that $N = L \cup H \cup O$, and, because O is insignificantly small,

$$s_t(x,N) \cong s_t(x, L \cup H) \text{ for all relevant } x, \text{ and}$$

$$a_t(N) \cong a_t(L \cup H).$$

The non-SAT portion of the model can be stated as follows.

Hypothesis: There exists a set O as described above such that

$$s_t(x,M) > s_t(x,L)$$

and

$$s_t(x,M) = s_t(x,H)$$

for all relevant x. Therefore:

$$a_t(M) > a_t(L)$$

and

$$a_t(M) = a_t(H),$$

so

$$a_t(M) > a_t(L \cup H) \cong a_t(N).$$

To consider the SAT portion of the model, for any set of students, S, let

$p(x,S)$ = the probability that a student in S, who would (on average) score x on the SAT if that student were to take the SAT, does take the SAT. It is assumed that

$$p(x,S) > p(y,S) \text{ if } x > y$$

for all relevant x, y, and S.

Appendix D
CURRICULUM

Appendix D
CURRICULUM

CURRICULUM CONTENT STANDARDS

Table D-1 is the criteria used for evaluating the content standards.

Tables D-2 to D-8 are detailed comparisons of content standards between DoDEA and other school systems.

Table D-9 is the DoDEA six-year Curriculum Development Assessment/Adoption Cycle.

ADVANCED PLACEMENT (AP) COURSES

Table D-10 is DoDEA AP Course enrollment data for SY 98-99

Tables D-11 and D-12 are AP Course Test Grade results for DoDEA, DoDDS, DDESS and the U.S.

VOCATIONAL EDUCATION

Table D-12 is a list of career/vocational education courses for DoDDS.

Table D-1. Criteria for Evaluating Content Standards

1. Standards are rigorous.
    - Expectations for mastery of content knowledge and skills are comparable to that which is expected in other high-achieving countries or states.
    - Standards raise expectations in a way that is likely to boost student achievement.
    - There are clear expectations for content mastery from grade to grade.

2. Standards define a comprehensive yet focused academic core for all students.
    - Breadth and depth of key domains are focused on essential academic knowledge.
    - Knowledge and skills necessary for success either in the workplace or in college are covered.
    - Standards exclude unnecessary non-academic expectations, however desirable.
    - Standards exclude pedagogy.
    - Standards focus on outputs, not inputs. (results vs. process)

3. Standards strike a good balance between content and (measurable) skills.
    - Skills are inextricably bound to important content, not mentioned in the abstract.

4. Standards are explicit, conveyed in a way that is accessible, but measurable.
    - Contextual curricular detail (such as a sample lesson) is not necessary to understanding of the standards.
    - Supporting material that is necessary to understanding, such as a reading list, *is* included.
    - Standards are written in clear prose, and in a logical format that is accessible to the general public.
    - Standards are specific enough to define both curriculum and assessment.
    - If there is a hierarchy/weighting of important content, it is clearly stated.

Table D-2. Comparison of Grade Three Vocabulary Standards

DoDEA (Grade Three, Vocabulary)	California (Grade Three, Vocabulary)
Students display evidence of a comprehensive reading vocabulary. Students will: • Increase vocabulary through interactions with media and technological resources • Recognize imaginative uses of language such as figures of speech, rhyme and rhythm • Demonstrate and apply knowledge of a basic sight vocabulary • Explain multiple meanings of words • Extend vocabulary through word meaning and word play • Use content and technical vocabulary • Explain author's choice of words • Relate own experiences to material read, heard, or viewed • Explain multiple meanings of words • Recognize and comprehend basic vocabulary in grade level materials.	1.0 (R) Students understand the basic features of reading. They select letter patterns and know how to translate them into spoken language by using phonics, syllabication, and word parts. They apply this knowledge to achieve fluent oral and silent reading. 1.1(R) Know and use complex word families when reading (e.g., *-ight*) to decode unfamiliar words. 1.2(R) Decode regular multisyllabic words. 1.3(R) Use knowledge of antonyms, synonyms, homophones, and homographs to determine the meanings of words. 1.4(R) Demonstrate knowledge of levels of specificity among grade-appropriate words and explain the importance of these relations (e.g., *dog/mammal/animal/living things*). 1.5(R) Use sentence and word context to find the meaning of unknown words. 1.6(R) Use a dictionary to learn the meaning and other features of unknown words. 1.7(R) Use knowledge of prefixes (e.g., *un-, re-, pre-, bi-, mis-, dis-*) and suffixes (e.g., *-er, -est, -ful*) to determine the meaning of words.

Table D-3. Comparison of DoDEA Vocabulary Standards Across Grades 2-4

DoDEA Grade Two Vocabulary	DoDEA Grade Three Vocabulary	DoDEA Grade Four Vocabulary
Students display evidence of a comprehensive reading vocabulary. Students will: • Increase vocabulary through interactions with media and technological resources • Recognize imaginative uses of language such as figures of speech, rhyme and rhythm • Demonstrate and apply knowledge of a basic sight vocabulary • *Explain multiple meanings of words* • Extend vocabulary through word meaning and word play • Use content and technical vocabulary • Explain author's choice of words • Relate own experiences to material read, heard, or viewed • *Explain multiple meanings of words (listed twice?)*	Students display evidence of a comprehensive reading vocabulary. Students will: • Increase vocabulary through interactions with media and technological resources • Recognize imaginative uses of language such as figures of speech, rhyme and rhythm • Demonstrate and apply knowledge of a basic sight vocabulary • *Explain multiple meanings of words* • Extend vocabulary through word meaning and word play • Use content and technical vocabulary • Explain author's choice of words • Relate own experiences to material read, heard, or viewed • *Explain multiple* meanings *of words (listed twice?)* • **Recognize and comprehend basic vocabulary in grade level materials. (new)**	Students display evidence of a comprehensive reading vocabulary. Students will: • Increase vocabulary through interactions with media and technological resources • Recognize imaginative uses of language such as figures of speech, rhyme and rhythm • Demonstrate and apply knowledge of a basic sight vocabulary • Explain multiple meanings of words • Extend vocabulary through word meaning and word play • Use content and technical vocabulary • Explain author's choice of words • ~~Relate own experiences to material read, heard, or viewed~~ (deleted from grade three) • Recognize and comprehend basic vocabulary in grade level materials. • **Use contextual clues to understand words of increasing difficulty (new)** • **Increase personal vocabulary through reading experiences. (new)**

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Table D-4. Comparison of Writing Requirements

California, grades 9-10	California, grades 11-12
Grade 9-10 2.1(W) Write biographical or autobiographical narratives or short stories: a. Relate a sequence of events and communicate the significance of the events to the audience. b. Locate scenes and incidents in specific places. c. Describe with concrete sensory details the sights, sounds, and smells of a scene and the specific actions, movements, gestures, and feelings of the characters; use interior monologue to depict the characters' feelings. d. Pace the presentation of actions to accommodate changes in time and mood. e. Make effective use of descriptions of appearance, images, shifting perspectives, and sensory details	2.1(W) Write fictional, autobiographical, or biographical narratives: a. Narrate a sequence of events and communicate their significance to the audience. b. Locate scenes and incidents in specific places. c. Describe with concrete sensory details the sights, sounds, and smells of a scene and the specific actions, movements, gestures, and feelings of the characters; use interior monologue to depict the characters' feelings. d. Pace the presentation of actions to accommodate temporal, spatial, and dramatic mood changes e. Make effective use of descriptions of appearance, images, shifting perspectives, and sensory details
Grade 9-10 2.2(W) Write responses to literature: a. Demonstrate a comprehensive grasp of the significant ideas of literary works. b. Support important ideas and viewpoints through accurate and detailed references to the text or to other works. c. Demonstrate awareness of the author's use of stylistic devices and an appreciation of the effects created. d. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.	2.2 Write responses to literature: a. Demonstrate a comprehensive understanding of the significant ideas in works or passages. b. Analyze the use of imagery, language, universal themes, and unique aspects of the text. c. Support important ideas and viewpoints through accurate and detailed references to the text and to other works. d. Demonstrate an understanding of the author's use of stylistic devices and an appreciation of the effects created. e. Identify and assess the impact of perceived ambiguities, nuances, and complexities within the text.
Grade 9-10 2.3(W) Write expository compositions, includin analytical essays and research reports: a. Marshal evidence in support of a thesis and related claims, including information on all relevant perspectives. b. Convey information and ideas from primary and secondary sources accurately and coherently. c. Make distinctions between the relative value and significance of specific data, facts, and ideas. d. Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs. e. e.Anticipate and address readers' potential misunderstandings, biases, and expectations. f. Use technical terms and notations accurately.	2.3 Write reflective compositions: a. Explore the significance of personal experiences, events, conditions, or concerns by using rhetorical strategies (e.g., narration, description, exposition, persuasion). b. Draw comparisons between specific incidents and broader themes that illustrate the writer's important beliefs or generalizations about life. c. Maintain a balance in describing individual incidents and relate those incidents to more general and abstract ideas.

Note: California's standards are grade-by-grade through grade 8. Then grades 9 and 10 are grouped, as well as grade 11 and 12, in an effort to accommodate various methods for implementing the standards within varying high school curricula. DoDDS and DDESS do not have this challenge, as do large states with very different populations in very different kinds of districts

Grade 9-10 2.4(W) Write persuasive compositions: a. Structure ideas and arguments in a sustained and logical fashion. b. Use specific rhetorical devices to support assertions (e.g., appeal to logic through reasoning; appeal to emotion or ethical belief; relate a personal anecdote, case study, or analogy). c. Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, and expressions of commonly accepted beliefs and logical reasoning. d. Address readers' concerns, counterclaims, biases, and expectations.	2.4 Write historical investigation reports: a. Use exposition, narration, description, argumentation, exposition, or some combination of rhetorical strategies to support the main proposition. b. Analyze several historical records of a single event, examining critical relationships between elements of the research topic. c. Explain the perceived reason or reasons for the similarities and differences in historical records with information derived from primary and secondary sources to support or enhance the presentation. d. Include information from all relevant perspectives and take into consideration the validity and reliability of sources. e. Include a formal bibliography.
Grade 9-10 2.5(W) Write business letters: a. Provide clear and purposeful information and address the intended audience appropriately. b. Use appropriate vocabulary, tone, and style to take into account the nature of the relationship with, and the knowledge and interests of, the recipients. c. Highlight central ideas or images. d. Follow a conventional style with page formats, fonts, and spacing that contribute to the documents' readability and impact.	2.5 Write job applications and résumés: a. Provide clear and purposeful information and address the intended audience appropriately. b. Use varied levels, patterns, and types of language to achieve intended effects and aid comprehension. c. Modify the tone to fit the purpose and audience. d. Follow the conventional style for that type of document (e.g., résumé, memorandum) and use page formats, fonts, and spacing that contribute to the readability and impact of the document.
Grade 9-10 2.6(W) Write technical documents (e.g., a manual on rules of behavior for conflict resolution, procedures for conducting a meeting, minutes of a meeting): a. Report information and convey ideas logically and correctly. b. Offer detailed and accurate specifications. c. Include scenarios, definitions, and examples to aid comprehension (e.g., troubleshooting guide). Anticipate readers' problems, mistakes, and misunderstandings	

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Table D-5. Comparison of Reading Requirements

North Carolina	Texas	DoDEA
First Grade: Decoding and Word Recognition • Uses phonics knowledge of sound-letter relationships to decode regular one-syllable words when reading words and text. • Recognizes many high frequency and/or common irregularly spelled words in text (e.g., *have, said, where, two*). • Reads aloud with fluency and comprehension any text that is appropriately designed for the first half of grade one. • Uses pronunciation, sentence meaning, story meaning, and syntax to confirm accurate decoding or to self-correct errors.	**1.7. Reading/letter-sound relationships. The student uses letter-sound knowledge to decode written language.** The student is expected to: A. learn and apply the most common letter-sound correspondences, including the sounds represented by single letters (consonants and vowels); consonant blends such as *bl, st, tr*; consonant digraphs such as *th, sh, ck*; and vowel digraphs and diphthongs such as *ea, ie, ee*. B. blend initial letter-sounds with common vowel spelling patterns to read words. C. decode by using all letter-sound correspondences within regularly spelled words. D. use letter-sound knowledge to read decodable texts (engaging and coherent texts in which most of the words are comprised of an accumulating sequence of letter-sound correspondences being taught). **1.8 Reading/word identification. The student uses a variety of word identification strategies.** The student is expected to: A. decode by using all letter-sound correspondences within a word. B. use common spelling patterns to read words. C. use structural cues to recognize words such as compounds, base words, and inflections such as *–s, -es, -ed*, and *–ing*. D. identify multisyllabic words by using common syllable patterns. E. recognize high frequency irregular words such as *said, was, where*, and *is*. F. use knowledge of word order (syntax) and context to support word identification and confirm word meaning. G. read both regular and irregular words automatically such as through multiple opportunities to read and reread. **1.9 Reading/fluency. The student reads with fluency and understanding in texts at appropriate difficulty levels.** The student is expected to: A. read regularly in independent-level materials (text in which no more than approximately 1 in 20 words is difficult for the reader). B. read regularly in instructional-level materials that are challenging but manageable (texts in which no more than approximately 1 in 10 words is difficult for the reader; a "typical" first grader reads approximately 60 wpm). C. read orally from familiar texts with fluency (accuracy, expression, appropriate phrasing, and attention to punctuation). D. self-select independent level reading such as by drawing on personal interest, by relying on knowledge of authors and different types of texts, and/or by estimating text difficulty.	**Students apply phonetic and structural analysis strategies to decode letter combinations and words in a variety of contexts. Students will:** 1. Recognize auditory likes and differences 2. Recognize likenesses and differences in letters, figures and letter sequences 3. Demonstrate an understanding of letter-sound relationships 4. Apply structural analysis strategies to form words 5. Identify and use synonyms, antonyms, homonyms, and idioms **NOTE…these standards are the same as for grade two and three, except that at grade three, the following standard is added:* • Increase vocabulary knowledge through the studying of roots, prefixes and suffixes.

Table D-6. Comparison of Mathematics Computation Standards

DoDEA (Grade Three, Computation)	Japan (Grade Three, Computation)
Students should show proficiency in being able to: 1. Perform addition and subtraction operations using horizontal and vertical notation with numbers having at least four digits. 2. Apply multiplication and division facts in problem solving situations. 3. Use math manipulatives to illustrate multiplication and division concepts 4. Rewrite given arithmetic problems in alternative forms 5. Demonstrate relationships between arithmetic operations 6. Find examples in real life situations which demonstrate fractional parts of sets 7. Connect appropriate symbolic representations of fractions to fractional parts. 8. Estimate the results of whole number computations to given data. 9. Use calculators appropriately in computational situations. 10. Generalize rules about sums and products of odd and even numbers after exploring a variety of examples 11. Explore rules for divisibility of numbers. 12. NOTE: It is understood that students will have access to calculators at all times	To enable children to more surely carry out addition and subtraction of whole numbers and to develop their abilities to use them. 2.A.2.a. To utilize the properties of addition and subtraction for considering how to compute and check the results of computing. 2.A.3. To enable children to deepen their understanding of the multiplication of whole numbers and to develop their abilities to use them. 2.A.3.a. To understand that multiplication of 2 or 3 digits number by 1 or 2 digits number is based on the multiplication table and the properties of operations. Furthermore, to know about the column form of multiplication and to be able to use it. 2.A.3.b To know about the variation in the product when the multiplier increases one by one and commutative and associative laws as the properties of multiplication and, to use them in considering the way of computation and checking the results of computing. 2.A.4. To enable children to understand the meaning of division and to use it. 2.A.4.a. To know about the case in which division may be applied, to represent them in mathematical expressions and to interpret them. 2.A.4.b To understand the relations between division and multiplication and between division and subtraction, and to use these relations in forming mathematical expressions, or calculating and checking the results of computing. Furthermore, to know the meaning of remainder in division. 2.A.4.c. To know about the column form of division by 1-digit divisor and to use it. 2.A.6. To enable children to know how numbers are set on the abacus and to use it in simple addition and subtraction. 2.A.6. To enable children to know how numbers are set on the abacus and to use it in simple addition and subtraction. 2.A.6.b. To know how to add and subtract with the abacus.

Table D-7. Comparison of Mathematics Problem Solving Standards

Grade Six	Grade Seven	Grade Eight
• Formulate and write single and multi-step word problems containing extraneous information related to everyday situations.	• Formulate, write and defend real world problems involving multi-step operations that may or may not include extraneous or insufficient information	• Solve multi-step problems using mathematical operations with real numbers • *or perhaps the following…* • Formulate problems to be solved based on the student's own interest. • Work cooperatively to solve nonroutine problems

Table D-8. Comparison of Algebra Standards

DoDEA Algebra with Geometry, Course One (Algebra)	Arizona, Grade Eight	Japan, Grade Eight, (all students)
Students will: • Simplify and evaluate numerical and algebraic expressions using order of operations • Solve equations or inequalities using inverse operations • Use variables to solve certain word and real world problems • Solve quadratic equations by using factoring, the quadratic formula **or a graphing calculator** • Translate a real life problem into an equation or inequality when appropriate to solve the problem • Use concrete materials to represent algebraic identities • Write problems to represent algebraic expressions	8.3M-E3 Describe the concepts of variables, expressions, equations and inequalities 8.3M-E3 PO1 Describe and use variables in a contextual situation 8.3M-E3 PO2 Evaluate an expression using substitution with four basic operations on whole numbers 8.3M-E3 PO3 Translate a written phrase to an algebraic expression and vice versa (words to symbols and symbols to words) (e.g., the quotient of x and y) 8.3M-E3 PO4 Express a simple inequality from a contextual situation (e.g., Joe earns more than $5.00 an hour: therefore $x > 5$) 8.3M-E6 Distinguish between linear and non linear functions through investigations 8.3M-E6 PO1 Distinguish between linear and non linear functions, given graphic examples 8.3M-E7 Solve simple linear equations and inequalities using a variety of methods (e.g., informal, formal, graphical) and a variety of manipulatives 8.3M-E7 PO1.B Solve equations using whole numbers with one variable-multiple steps 8.3M-E7 PO2 Solve linear (first degree) equations using models/manipulatives, symbols and/or graphing in a one-step equation 8.3M-E7 PO3 Graph given data points to represent a linear equation 8.3M-E7 PO3.B In (x,y) form using all four quadrants of a coordinate grid	8.2.A.1. To enable students to carry out the four fundamental operations of simple algebraic expressions using letters. 8.2.A.1.a. Addition and subtraction of simple polynomials. 8.2.A.1.b. Multiplication and division of monomials. 8.2.A.2. To enable students to develop their abilities to find the quantitative relationships in phenomena and to represent such relationships in an algebraic expression by using letters and to utilize them. 8.2.A.2.a. To make use of algebraic expressions. 8.2.A.2.b. To transform simple inequalities. 8.2.A.3. To enable students to understand the meaning of inequality and to apply linear inequalities. 8.2.A.3.a. Inequality and the meaning of its solution. 8.2.A.3.b. The properties of inequality. 8.2.A.3.c. To solve linear inequalities. 8.2.A.4. To enable students to understand the meaning of simultaneous linear equation and their solution and thereby to apply them. 8.2.A.4.a. The meaning of linear equation with two variables and its solution. 8.2.A.4.b. To solve simple simultaneous linear equations. 8.2.C.2.c. A linear equation with two variables may be considered to represent the functional relationships between two variables.

Table D-9. DoDEA Six Year Curriculum Development/Assessment Adoption Cycle (Draft - Revision)

Cycle	**Step 1** Task Analysis/ Assessment Program Needs Evaluation	**Step 2** Develop/Revise Curriculum/Performance Standards Developed Assessment Specifications Materials Review (Summer)	**Step 3** Compile Materials Review Results Implement Buy Develop/Review/ Purchase Assessments	**Step 4** Pre-Implementation Training: Standards, Curriculum, Materials	**Step 5** Full Implementation Curriculum: Materials Implement Assessment	**Step 6** Assess fidelity of Implementation Adjust and/or supplement
98-99	Social Studies (K-12) Foreign Language PE (K-12)	Mathematics (K-8) Mathematics (9-12) Health (K-12) ESL (K-12)	FY 99 Mathematics (K-8) Visual Arts (K-12) Performing Arts (K-12)	Science (K-12) Language Arts (7-12)	Language Arts/ Reading (K-6) Tech. Education (K-12)	Social Studies (K-12)
99-00	Tech. Education (K-12) Special Education Compensatory Ed PPS TAG	Social Studies (K-12) Foreign Language (7-12) PE (K-12)	FY 00 Mathematics (9-12) Health (K-12) ESL (K-12)	Mathematics (K-8) Mathematics (9-12) Visual Arts (K-12) Performing Arts (K-12)	Science (K-12) Language Arts (7-12)	Language Arts/Reading (K-6)
00-01	Language Arts/ Reading (K-6) Language Arts (7-12)	Tech. Education (K-12) Special Education Compensatory Ed PPS TAG	FY 01 Social Studies (K-12) Foreign Language (7-12) PE (K-12)	Health (K-12) ESL (K-12)	Mathematics (K-8) Mathematics (9-12) Visual Arts (K-12) Performing Arts (K-12)	Science (K-12 Language Arts (7-12)
01-02	Science (K-12) Visual Arts (K-12)	Language Arts/ Reading (K-6) Language Arts (7-12)	FY 02 Tech. Education (K-12) Special Education Compensatory Education PPS TAG	Social Studies (K-12) Foreign Language (7-12) PE (K-12)	Health (K-12) ESL (K-12)	Mathematics (K-8) Mathematics (9-12) Visual Arts (K-12) Performing Arts (K-12)
02-03	Mathematics (K-8) Mathematics (9-12) Performing Arts (K-12)	Science (K-12) Visual Arts (K-12)	FY 03 Language Arts/ Reading (K-6) Language Arts (7-12)	Tech. Education (K-12) Special Education Compensatory Education PPS TAG	Social Studies (K-12) Foreign Language (7-12) PE (K-12)	Health (K-12) ESL (K-12) PE (K-12)
03-04	Health (K-12) ESL (K-12) PE (K-12)	Mathematics (K-8) Mathematics (9-12) Performing Arts (K-12)	FY 04 Science (K-12) Visual Arts (K-12)	Language Arts/ Reading (K-6) Language Arts (7-12)	Tech. Education (K-12) Special Education Compensatory Education PPS TAG	Social Studies (K-12) Foreign Language (7-12)
04-05	Social Studies (K-12) Foreign Language (7-12)	Health (K-12) ESL (K-12) PE (K-12)	FY 05 Mathematics (K-8) Mathematics (9-12) Performing Arts (K-12)	Science (K-12) Visual Arts (K-12)	Language Arts/ Reading (K-6) Language Arts (7-12)	Tech. Educ (K-12) Special Education Compensatory Education PPS TAG

Source: DoDEA, Education Division

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Table D-10. DoDEA AP Course Enrollment Data (SY 98-99)

District	School	# Courses	Grade 11-12 Enrollment	% Students in AP courses	Students in AP courses	# of AP courses enrolled					Max AP Tests Oppor
						1	2	3	4	5	
Brussels	AFCENT HS	8	111	45%	50	31	17	2			71
Brussels	Bitburg HS	8	124	41%	51	39	6	5	1		70
Brussels	Brussels ES/HS	8	63	49%	31	14	14	3			51
Brussels	SHAPE HS	10	146	58%	85	46	23	11	5		145
Heidelberg	Bad Aibling ES/HS	3	20	50%	10	10					10
Heidelberg	Heidelberg HS	15	308	43%	133	70	31	26	5	1	235
Heidelberg	Mannheim HS	6	141	29%	41	25	14	2			59
Heidelberg	Patch HS	8	135	39%	53	41	11	1			66
Hessen	GEN H H Arnold HS	9	230	28%	65	39	17	8	1		101
Hessen	Giessen HS	5	51	29%	15	11	4				19
Hessen	Hanau HS	4	108	36%	39	37	2				41
Italy	Aviano HS	7	113	33%	37	19	12	2	4		65
Italy	Livorno Unit School	2	11	45%	5	3	2				7
Italy	Naples HS	10	131	21%	28	16	8	4			44
Italy	Sigonella ES/HS	2	59	37%	22	20	2				24
Italy	Vicenza HS	5	73	23%	17	12	1	2	2		28
Kaiserslautern	Bad Kreuznach HS	4	45	47%	21	11	10				31
Kaiserslautern	Baumholder HS	2	88	19%	17	17					17
Kaiserslautern	Kaiserslautern HS	11	206	41%	84	35	38	4	5	2	153
Kaiserslautern	Ramstein HS	12	380	39%	148	71	53	13	10	1	261
Turkey	Ankara ES/HS	2	34	35%	12	10	2				14
Turkey	Bahrain ES/HS	0	245	0%	0						0
Turkey	Incirlik HS	4	37	35%	13	6	6	1			21
Turkey	Izmir ES/HS	1	19	11%	2	2					2
Turkey	Lajes HS	3	33	15%	5	4		1			7
Turkey	Rota HS	2	79	28%	22	19	3				25
United Kingdom	A T Mahan HS	2	38	29%	11	7	4				15
United Kingdom	Alconbury HS	4	57	35%	20	19		1			22
United Kingdom	Lakenheath HS	7	251	22%	55	37	12	5	1		80
United Kingdom	London Central HS	9	91	57%	52	36	8	7	1		77
United Kingdom	Menwith Hill MS/HS	6	25	24%	6	3	1	1		1	13
Wuerzburg	Ansbach HS	4	63	44%	28	20	6	2			38
Wuerzburg	Bamberg HS	6	60	27%	16	14	2				18
Wuerzburg	Hohenfels HS	4	39	41%	16	12	1	3			23
Wuerzburg	Vilseck HS	5	118	32%	38	19	18	1			58
Wuerzburg	Wuerzburg HS	6	206	34%	71	54	15	2			90
Japan	Ernest J King ES/HS	1	61	2%	1	1					1
Japan	Matthew C Perry HS	6	52	54%	28	23	3	1	1		36
Japan	Nile C Kinnick HS	6	214	23%	49	26	12	8	3		86
Japan	Robert D Edgren HS	5	121	31%	37	25	11	1			50
Japan	Yokota HS	5	176	21%	37	28	8	1			47
Japan	Zama HS	9	177	36%	63	37	17	6	2	1	102
Korea	Osan HS	6	78	33%	26	14	6	4	2		46
Korea	Pusan ES/HS	2	21	52%	11	9	2				13
Korea	Seoul HS	10	272	43%	118	53	39	20	6		215
Korea	Taegu ES/HS	4	60	35%	21	11	10				31
Okinawa	Kadena HS	8	317	24%	75	48	12	10	5		122
Okinawa	Kubasaki HS	9	250	38%	94	56	26	9	3		147
Americas	Balboa HS	7	303	33%	101	59	27	9	6		164
Americas	W T Sampson School	0	31	0%	0						
DoDDS			**6071**	**33%**	**1980**	**1219**	**516**	**176**	**63**	**6**	**3061**
Antilles	Antilles HS	9	262	26%	68						
Antilles	Ramey ES/HS	2	33	18%	6						
Antilles	Roosevelt Roads MS/HS	5	94	31%	29						
Ft Campbell	Ft Campbell HS	8	248	12%	30						
Ft Knox	Knox HS	8	209	14%	30						
Guam	Guam HS	3	134	25%	34						
Lejeune	Lejeune HS	5	184	8%	15						
Quantico	Quantico MS/HS	8	76	18%	14						
DDESS			**1240**	**18%**	**226**						
DoDEA			**7311**	**30%**	**2206**						

Source Derived from data provided by DoDEA Education Division, Research and Evaluation Branch, and DoDEA Management Analysis Section

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Table D-11. DoDEA AP Course Test Grades - 1999 (SY 98-99)

AP Subject	DODDS					DDESS					DoDEA				
	Total Students Tested	Students Scoring 3,4,5	Students Scoring 1,2	% Scoring 3,4,5	% Scoring 1,2	Total Students Tested	Students Scoring 3,4,5	Students Scoring 1,2	% Scoring 3,4,5	% Scoring 1,2	Total Students Tested	Students Scoring 3,4,5	Students Scoring 1,2	% Scoring 3,4,5	% Scoring 1,2
Art History	24	18	6	75%	25%						24	18	6	75%	25%
Art. Studio-Drawing	6	3	3	50%	50%						6	3	3	50%	50%
Art. Studio-General	2	1	1	50%	50%						2	1	1	50%	50%
Biology	84	29	55	35%	65%	39	16	23	41%	59%	123	45	78	37%	63%
Calculus AB	189	107	82	57%	43%	29	6	23	21%	79%	218	113	105	52%	48%
Calculus BC	3	2	1	67%	33%						3	2	1	67%	33%
Chemistry	96	42	54	44%	56%	15	2	13	13%	87%	111	44	67	40%	60%
Computer Sci. A	42	24	18	57%	43%	11	2	9	18%	82%	53	26	27	49%	51%
Computer Sci. AB	1		1	0%	100%						1	0	1	0%	100%
Economics: Micro	1	1		100%	0%						1	1	0	100%	0%
Economics: Macro	24	18	6	75%	25%						24	18	6	75%	25%
English: Lang. & Comp	298	155	143	52%	48%	28	10	18	36%	64%	326	165	161	51%	49%
English: Lit. & Comp	336	197	139	59%	41%	35	18	17	51%	49%	371	215	156	58%	42%
English: Intl. English Lang.	3	2	1	67%	33%						3	2	1	67%	33%
Environmental Sci.															
French Language	30	22	8	73%	27%	1	1		100%	0%	31	23	8	74%	26%
French Literature	1	1		100%	0%						1	1	0	100%	0%
German	68	65	3	96%	4%	3	3		100%	0%	71	68	3	96%	4%
Govt. & Politics: Comp	7	6	1	86%	14%						7	6	1	86%	14%
Govt. & Politics: US	95	64	31	67%	33%	23	1	22	4%	96%	118	65	53	55%	45%
History: European	20	14	6	70%	30%						20	14	6	70%	30%
History: US	319	132	187	41%	59%	77	11	66	14%	86%	396	143	253	36%	64%
Latin: Vergil															
Latin: Literature															
Music Theory	1		1	0%	100%	2		2	0%	100%	3	0	3	0%	100%
Physics B	84	53	31	63%	37%	2	2		100%	0%	86	55	31	64%	36%
Physics C: Mechanics	16	9	7	56%	44%						16	9	7	56%	44%
Physics C: Elec. & Magnet.	18	6	12	33%	67%						18	6	12	33%	67%
Psychology	5	3	2	60%	40%						5	3	2	60%	40%
Spanish Language	67	63	4	94%	6%	15	13	2	87%	13%	82	76	6	93%	7%
Spanish Literature	22	19	3	86%	14%	15	14	1	93%	7%	37	33	4	89%	11%
Statistics	43	12	31	28%	72%	11		11	0%	100%	54	12	42	22%	78%
Total	1905	1068	837			306	99	207			2211	1167	1044		
Percent		56%	44%				32%	68%				53%	47%		

Source: DoDEA Education Division, Research and Evaluation Branch

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Table D-12. Comparison of DoDEA and National AP Course Test Grades - 1999 (SY 98-99)

AP Subject	DoDEA					National		
	Total Students Tested	Students Scoring 3,4,5	Students Scoring 1,2	% Scoring 3,4,5	% Scoring 1,2	% Scoring 3,4,5	% Scoring 1,2	# Students
Art History	24	18	6	75.0	25.0	72.7	27.4	9,038
Art: Studio-Drawing	6	3	3	50.0	50.0	70.1	30	4,204
Art: Studio-General	2	1	1	50.0	50.0	57.8	42.2	8,769
Biology	123	45	78	36.6	63.4	61.1	38.9	75,461
Calculus AB	218	113	105	51.8	48.2	66.2	33.9	117,671
Calculus BC	3	2	1	66.7	33.3	79.1	20.9	27,088
Chemistry	111	44	67	39.6	60.4	58.3	41.7	44,937
Computer Sci. A	53	26	27	49.1	50.9	58.6	41.4	12,218
Computer Sci. AB	1	0	1	0.0	100.0	71.9	28.1	6,619
Economics: Micro	1	1	0	100.0	0.0	62.9	37.1	14,867
Economics: Macro	24	18	6	75.0	25.0	61.8	38.2	20,014
English: Lang. & Comp.	326	165	161	50.6	49.4	62.3	37.7	97,370
English: Lit. & Comp.	371	215	156	58.0	42.0	68.1	31.8	176,221
English: Intl. English Lang.	3	2	1	66.7	33.3	not avail	not avail	not avail
Environmental Sci.	none	none	none	none	none	57.7	42.3	5,143
French Language	31	23	8	74.2	25.8	58.7	41.2	13,721
French Literature	1	1	0	100.0	0.0	70.7	29.3	1,618
German	71	68	3	95.8	4.2	63.4	36.6	3,493
Govt. & Politics: Comp.	7	6	1	85.7	14.3	65.6	34.3	7,463
Govt. & Politics: US	118	65	53	55.1	44.9	65.8	34.3	57,015
History: European	20	14	6	70.0	30.0	69.3	30.7	54,759
History: US	396	143	253	36.1	63.9	50.8	49.1	177,489
Latin: Vergil	none	none	none	none	none	60.9	39.1	2,055
Latin: Literature	none	none	none	none	none	62.6	37.3	3,311
Music Theory	3	0	3	0.0	100.0	71.9	28.1	3,465
Physics B	86	55	31	64.0	36.0	66.5	33.5	24,276
Physics C: Mechanics	16	9	7	56.3	43.7	68.5	31.6	12,939
Physics C: Elec. & Magnet.	18	6	12	33.3	66.7	65.3	34.6	6,415
Psychology	5	3	2	60.0	40.0	68.7	31.2	28,291
Spanish Language	82	76	6	92.7	7.3	78.4	21.6	58,340
Spanish Literature	37	33	4	89.2	10.8	75.5	24.6	7,998
Statistics	54	12	42	22.2	77.8	57.2	42.8	25,240
TOTAL	2211	1167	1044	52.8	47.2	63.8	36.2	

Source: DoDEA Grades - DoDEA Education Div, Research & Evaluation Branch; National Grades - The College Board (www.collegeboard.org/ap), extracted from Distribution of Grades Report for each subject

Table D-13. Career/Vocational Education Courses for DoDDS

CAREER EDUCATION Career Decision-Making (grades 7-8 & 9-12) Cooperative Work Experience (1, 2, or 3 hrs)	GRAPHIC COMMUNICATIONS Graphic Communications A (grades 7-8) Graphic Communications B (grades 7-8) Graphic Communications AB (grades 7-8) Graphics I and II Graphic Communications Seminar Graphic Production Center (1, 2, or 3 hrs)
AUTOMOTIVE TECHNOLOGY Power Mechanics A (grades 7-8) Power Mechanics B (grades 7-8) Power Mechanics AB (grades 7-8) Small Gasoline Engines A (grades 7-8) Small Gasoline Engines B (grades 7-8) Small Gasoline Engines AB (grades 7-8) Auto Body Automotive Consumerism Automotive Service Center (1, 2, or 3 hrs) Automotive Tech (1 or 2 hours) Small Gasoline Engines Vocational Automotive Mechanics Welding	ELECTRICITY/ELECTRONICS Electricity/Electronics A (grades 7-8) Electricity/Electronics B (grades 7-8) Electricity/Electronics AB (grades 7-8) Applied Electricity/Electronics Consumer Electronics Digital Electronics Electricity Electricity and Electronics Electricity/Electronics Service Center (1- hrs) Electronic Communication Electronics Industrial Electricity Microprocessors Robotics/Industrial Technology
HOME ECONOMICS Home Economics A (grades 7-8) Home Economics B (grades 7-8) Home Economics AB (grades 7-8) Care & Guidance of Children Child Care and Development Clothing and Textiles Clothing Manage/Product/Services Family Living & Parenthood Food Manage/Product/Services Foods and Nutrition Home Economics I Housing/Home Furnishings Management	COSMETOLOGY Cosmetology A (grades 7-8) Cosmetology B (grades 7-8) Cosmetology AB (grades 7-8) Modeling A (grades 7-8) Modeling B (grades 7-8) Modeling AB (grades 7-8) Cosmetology I, II, III, IV Cosmetology Salon Center (1, 2, or 3 hrs) Modeling (grades 9-12)
Note: Courses listed as A or B are 9 weeks long; AB courses are 18 weeks long.	

Source: DoDEA Education Division

Appendix E
TEACHERS AND ADMINISTRATORS

Appendix E
TEACHERS AND ADMINISTRATORS

TEACHER QUALITY

Tables E-1 contains SAT and ACT scores and competitive ratings for undergraduate colleges attended by DoDEA teachers.

Table E-2 contains SAT scores for selected colleges in Pennsylvania.

Table E-3 contains teacher education data provided by the NAEP.

TEACHER RECRUITMENT AND RETENTION

Tables E-4 and E-5 provide data on the years of government service that teachers had at the time of separation.

Table E-6 is a comparison of years of government service to age for DoDEA teachers.

Table E-1. SAT and ACT Scores and Competitiveness Ratings for Undergraduate Colleges Attended by DoDEA Teachers

Number		25 V	75 V	25 M	75 M	25 ACT	75 ACT	25 SAT	75 SAT	Avg SAT	Avg. SAT	Competitiveness
1		490	590	490	600					1085		C
2		500	540	470	520					1015		LC
3		580	670	590	680					1260		HC
4		470	550	490	590					1050		C
5		460	540	440	530					985		LC
6		480	570	480	580					1055		C
7		410	500	400	500					905		C+
8		560	640	570	640					1205		HC
9		430	520	430	520					950		C
10		500	590	500	590					1090		VC
11		480	530	480	580					1035		C
12						19	24	910	1110		1010	C
13		520	620	540	640					1160		VC
14	no test											C
15		420	530	410	530					945		C+
16		540	640	560	670					1205		HC
17		500	590	500	600					1095		C
18		490	590	480	590					1075		C
19		570	670	600	710					1275		HC
20		500	600	500	600					1100		VC
21		530	610	520	590					1125		VC
22		540	640	560	670					1205		VC
23		430	520	410	510					935		C
24		410	550	440	570					985		C
25		460	550	440	540					995		C
26		460	560	460	550					1015		LC
27		450	580	430	550					1005		C
28		540	630	550	630					1175		VC
29		460	570	460	570					1030		C
30	no test											LC
31		500	600	500	480					1040		C
32		460	550	460	550					1010		C
33		560	670	570	670					1235		HC
34		460	570	450	560					1020		C
35		470	570	470	560					1035		C
36		530	630	540	650					1175		VC
37		480	610	480	600					1085		C
38		480	610	480	600					1085		C
39		550	640	550	640					1190		HC
40		450	540	440	530					980		C
41		400	550	400	550					950		C
42		490	550	470	540					1025		C
43		500	580	500	580					1080		VC
44		560	670	580	680					1245		HC
45		490	600	500	610					1100		C
46	no test											C
47		520	620	520	620					1140		VC
48		510	610	510	610					1120		C+
49	no test											LC
50		500	610	510	640					1130		VC
51		540	630	560	650					1190		HC
52		490	580	480	570					1060		LC
53						19	24	910	1110		1010	LC
54		440	550	430	550					985		LC
55						20	24	950	1110		1030	C
56						19	24	910	1110		1010	C
57						19	24	910	1110		1010	C
58		490	610	490	610					1100		VC
59		480	610	470	590					1075		C
60		470	590	460	590					1055		C
61						19	24	910	1110		1010	LC

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62						19	25	910	1140		1025	C
63						19	24	910	1110		1010	C
64						19	24	910	1110		1010	C
65						18	24	870	1110		990	NC
66						18	24	870	1110		990	NC
67	no test											NC
68	no test											C+
69		460	550	460	550					1010		C
70		460	580	460	570					1035		C
71						19	25	910	1140		1025	LC
72						19	24	910	1110		1010	C
73		480	600	480	600					1080		C
74						18	24	870	1110		990	C
75		423	662	438	624					1074		VC
76	no test											LC
77	unk school											
78						21	26	990	1180		1085	C
79	no test											C
80	no test											C
81	no test											
82		530	640	560	670					1200		VC
83		530	640	560	670					1200		VC
84		480	580	480	590					1065		VC
85						19	24	910	1110		1010	C
86		420	540	410	530					950		LC
87		470	560	470	560					1030		C
88	no school											
89		520	610	520	640					1145		VC
90		430	600	430	560					1010		C
91		490	600	490	610					1095		VC
92		530	650	540	660					1190		VC
93						19	25	910	1140		1025	NC
94		470	590	470	580					1055		LC
95	no test											LC
96						18	24	870	1110		990	NC
97						18	24	870	1110		990	NC
98		430	550	420	540					970		LC
99						19	24	910	1110		1010	C
100		490	590	470	580					1065		C+
101		450	560	460	570					1020		C
102	no test											LC
103		480	610	490	600					1090		NC
104		500	600	500	590					1095		C
105		440	560	430	560					995		LC
106		450	570	450	580					1025		C
107		580	680	570	660					1245		VC
108	no school											
109		520	620	540	650					1165		HC
110		520	620	540	650					1165		HC
111		570	670	600	710					1275		HC
112	unk school											
113		420	530	440	560					975		C
114		490	600	500	620					1105		VC
115		520	620	540	650					1165		HC
116		480	600	480	600					1080		C
117		530	650	500	620					1150		C+
118		580	670	540	630					1210		
119	unk school											
120						18	24	870	1110		990	C
121						17	20	830	950		890	C+
122		580	670	540	630					1210		
Avg										1087	1005	

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Table E-2. SAT Scores of Selected Colleges in Pennsylvania

Name	25 V	75 V	25 M	75 M	Average (V+M)
Bloomsburg	460	550	460	560	1015
California	430	520	410	510	935
Cheyney					
Clarion	420	530	410	530	945
East Stroudsburg	430	520	430	520	950
Edinboro	490	540	470	520	1010
Indiana	490	580	480	570	1060
Kutztown	450	540	440	530	980
Lock Haven	430	530	430	530	960
Mansfield	430	520	420	530	950
Millersville	480	580	480	580	1060
Shippensburg	480	570	470	570	1045
Slippery Rock	480	570	470	570	1045
West Chester	480	560	470	550	1030
Average					999

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Table E-3. NAEP Teacher Education Data

Grade 4 Reading Teacher Education Data		
State	1999 Enrollment (000)	% of 1998 Teachers w/ Advanced Degree
Connecticut	545	80
New York	2,900	75
Kentucky	646	73
DoDDS	**80**	**65**
Rhode Island	154	64
DDESS	**30**	**63**
South Carolina	644	60
Alabama	759	59
Massachusetts	964	57
Colorado	699	54
West Virginia	296	53
Michigan	1,700	52
Washington	1,000	51
Maryland	837	50
Tennessee	909	49
Georgia	1,400	48
Wisconsin	888	48
Arizona	829	47
Delaware	113	46
Washington, DC	80	46
Minnesota	858	46
Missouri	921	44
Nation	**46,100**	**43**
Hawaii	187	42
New Mexico	329	41
Nevada	311	39
Kansas	470	38
New Hampshire	195	36
Oklahoma	627	36
Oregon	543	36
Florida	2,300	33
Mississippi	502	33
Virginia	1,100	33
Maine	220	32
California	5,800	31
Montana	161	31
Arkansas	456	28
Louisiana	754	28
North Carolina	1,200	27
Iowa	503	22
Wyoming	94	22
Texas	3,900	21
Utah	447	20

Grade 8 Reading Teacher Education Data		
State	1999 Enrollment (000)	% of 1998 Teachers w/ Advanced Degree
DDESS	**36**	**95**
Connecticut	545	84
New York	2,900	80
DoDDS	**76**	**80**
Kentucky	646	71
Washington, DC	80	69
Massachusetts	964	66
Alabama	759	63
West Virginia	296	63
South Carolina	644	55
Tennessee	909	55
Washington	1,000	55
Colorado	699	53
Georgia	1,400	53
Oregon	543	53
Rhode Island	154	53
Arizona	829	49
Delaware	113	48
Maryland	837	48
Missouri	921	48
Nation	**46,100**	**47**
Wisconsin	888	46
Virginia	1,100	44
New Mexico	329	41
California	5,800	40
Kansas	470	40
Hawaii	187	39
Minnesota	858	39
Louisiana	754	38
Montana	161	38
Nevada	311	38
Maine	220	37
Florida	2,300	36
Mississippi	502	36
North Carolina	1,200	34
Oklahoma	627	33
Utah	447	32
Arkansas	456	30
Wyoming	94	30
Texas	3,900	27

Source: NCES Web Site
Grade 4 Data – http: //nces.ed.gov/nationsreportcard/TABLES/REA1098/XS/Gr04/TCH/XSR113014.HTM
Grade 8 Data – http: //nces.ed.gov/nationsreportcard/TABLES/REA1098/XS/Gr08/TCH/XSR23012.HTM

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Table E-4. DoDDS Teacher Separation Data

DODDS Separations from 94-10-01 thru 99-09-30 (5 years)

Reason for Separation	Count	Subtotal
Death	23	23
Not Applicable (no entry)	99	99
Removal-Cause	1	
Removal-Other	3	4
Resign-Children require full time attention	1	
Resign-Combination of reasons	13	
Resign-further education	25	
Resign-Illness in family	20	
Resign-ILO separation or demotion	1	
Resign-Job not in line w/ career plans	1	
Resign-Marriage	5	
Resign-Moving out of area	55	
Resign-No reason provided, no other info	23	
Resign-Other	736	
Resign-Personal Reasons	38	
Resign-Pregnancy	6	
Resign-To accept appt. in another agency	2	
Resign-To accept postion in private ind.	15	
Resign-To accompany spouse	217	
Resign-To broaden experience	6	
Resign-To enter military service	4	
Resign-To move nearer home	15	
Resign-To remain at home	8	
Resign-Too much pressure	1	
Resign-Health Reasons	4	
Resign-To accept another position	3	1199
Retire-Disability	40	
Retire-Discontinue service/position abolished	2	
Retire-Mandatory	3	
Retire-Optional (based on disability)	6	
Retire-Optional (displacement)	2	
Retire-Optional (position abolished)	6	
Retire-Optional (reduction-in-force)	123	
Retire-Voluntary	638	
Retire-Voluntary discontinued service	1	821
Termination-Expiration of appointment	439	
Termination-Appointment in another agency	67	
Termination-Business based action	1	
Termination-For cause	1	
Termination-Other	9	
Termination-Relocation of sponsor	5	
Termination-Reduction-in-force	1	
Termination-lack of work	12	535
TOTAL	2681	2681

Separations by YOS		
YOS	Number	Subtotal
00	222	
01	313	
02	276	811
03	183	
04	108	
05	131	422
06	114	
07	82	
08	73	
09	66	
10	85	420
11	72	
12	70	
13	45	
14	56	
15	42	285
16	29	
17	32	
18	26	
19	19	
20	56	162
21	24	
22	39	
23	24	
24	36	
25	38	161
26	28	
27	39	
28	43	
29	41	
30	104	255
31	42	
32	35	
33	28	
34	13	
35	9	127
36	11	
37	9	
38	3	
39	2	
40	2	27
41	3	
42	2	
43	2	7
97	1	
99	3	4
Total	2681	2681
46% separated in 0-5 yrs		

Separations by Fiscal Year	
FY 95	723
FY 96	491
FY 97	468
FY 98	439
FY 99	560

Table E-5. DDESS Teacher Separation Data

DDESS Separations from 97-10-31 thru 99-09-30 (2 years)

Reason for Separation	Number	Sub Total
Not applicable (no entry)	4	4
Removal-Cause	1	
Removal-Other	3	4
Resign-Children require full time attention	3	
Resign-Further education	3	
Resign-Moving out of area	37	
Resign-No reason provided, no other info	8	
Resign-Other	34	
Resign-Personal Reasons	17	
Resign-Pregnancy	1	
Resign-Skills not fully utilized	1	
Resign-To accept appt. in another agency	2	
Resign-To accept position in private ind.	12	
Resign-To accompany spouse	33	
Resign-To broaden experience	1	
Resign-To move nearer home	2	
Resign-To remain at home	1	155
Retire-Disability	3	
Retire-Optional (reduction-in-force)	1	
Retire-Voluntary	38	42
Termination-Expiration of appointment	26	
Termination-Appointment in another agency	1	
Termination-Ordinary Notice	1	
Termination-Other	1	
Termination-Relocation of sponsor	4	
Termination-Reduction-in-force	6	
Termination-Lack of Work	5	44
TOTAL	249	249

Separations by Fiscal Year	
FY 98	45
FY 99	204

Separations by YOS		
YOS	Number	Sub Total
00	77	
01	31	
02	22	130
03	9	
04	8	
05	6	23
06	8	
07	8	
08	6	
09	5	
10	6	33
11	3	
12	2	
13	4	
14	3	
15	2	14
16	3	
17	3	
18	2	
19	2	
20	2	12
21	3	
22	4	
23	2	
25	5	14
27	2	
30	5	7
31	5	
32	2	
33	4	
34	1	
35	1	13
36	1	
37	1	
45	1	3
Total	249	249
61% separated in 0-5 yrs		

Table E-6. Years of Serivce Compared to Age

	DDESS			DoDDS			DoDEA	
YOS	# Teachers	Age Range	YOS	# Teachers	Age Range	YOS	# Teachers	Age Range
0	301	22-68	0	487	23-67	0	788	22-68
1	137	24-59	1	454	22-65	1	591	22-65
2	210	23-71	2	306	22-72	2	516	22-72
3	60	25-56	3	211	25-69	3	271	25-69
4	54	28-58	4	111	27-62	4	165	27-62
5	68	27-63	5	141	29-64	5	209	27-64
6	62	29-60	6	117	28-67	6	179	28-67
7	77	30-61	7	140	30-64	7	217	30-64
8	113	30-64	8	149	30-61	8	262	30-64
9	82	31-64	9	218	31-70	9	300	31-70
10	98	32-63	10	222	33-69	10	320	32-69
11	100	33-69	11	229	31-65	11	329	31-69
12	92	34-67	12	240	34-67	12	332	34-67
13	94	34-65	13	201	36-67	13	295	34-67
14	85	35-63	14	222	38-69	14	307	35-69
15	67	38-77	15	231	37-69	15	298	37-77
16	76	38-66	16	159	39-67	16	235	38-67
17	73	38-68	17	178	41-69	17	251	38-69
18	43	40-68	18	204	41-69	18	247	40-69
19	61	36-77	19	139	42-71	19	200	36-77
20	54	41-63	20	153	43-71	20	207	41-71
21	59	43-63	21	120	43-69	21	179	43-69
22	57	44-67	22	101	46-68	22	158	44-68
23	41	43-60	23	99	43-73	23	140	43-73
24	35	45-69	24	85	48-73	24	120	45-73
25	45	47-61	25	92	50-73	25	137	47-73
26	24	47-68	26	90	48-66	26	114	47-68
27	45	48-65	27	79	51-69	27	124	48-69
28	39	50-66	28	77	51-65	28	116	50-66
29	35	50-67	29	111	51-70	29	146	50-70
30	15	51-68	30	97	53-70	30	112	51-70
31	18	53-66	31	57	53-70	31	75	53-70
32	12	55-63	32	47	54-67	32	59	54-67
33	16	55-72	33	45	55-66	33	61	55-72
34	4	56-64	34	30	58-71	34	34	56-71
35	4	57-65	35	23	55-69	35	27	55-69
36	5	58-74	36	21	60-72	36	26	58-74
37	5	59-70	37	10	58-67	37	15	58-70
38	3	60-65	38	6	63-72	38	9	60-65
39			39	9	62-68	39	9	62-68
40			40	5	65-72	40	5	65-72
41			41	3	68-71	41	3	68-71
42			42	1	79	42	1	79
43			43	1	80	43	1	80
44	1	69	44	1	70	44	2	69-70
45			45	1	71	45	1	71
46			46	1	72	46	1	72
47			47			47		
48			48			48		
49			49			49		
50			50	1	68	50	1	68
Total	2470		Total	5725		Total	8195	

Appendix F
SCHOOL ENVIRONMENT

Appendix F
SCHOOL ENVIRONMENT

OPPORTUNITY

Table F-1 is a complete list of school combinations in each DoDEA school district.

Table F-2 is the enrollment of each DoDEA school that includes grades 9-12.

STAFFING STANDARDS, PUPIL TEACHER RATIO AND CLASS SIZE

Table F-3 provides school district enrollment data for SY 98-99 compared to projections.

Table F-4 is a class size analysis for DoDDS elementary schools.

Table F-5 provides the results of DoDEA schools that implemented the reduced PTR of 1:18 in grades 1-3 in SY 99-00.

Table F-6 is a class size analysis for DoDDS middle schools and high schools.

Table F-7 is class size data for reading classes provided by the NAEP.

Table F-1. 30 DoDEA School Types by Grade Combinations

District	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-12	K-3	K-5	K-6	K-7	K-8	K-12	2-3	2-6	3-5	3-6	4-5	4-6	4-8	5-6	5-8	6-8	6-12	7-8	7-9	7-12	9-12	Total
Brussels				2		2			1			3												2					2	1	13
Heidelberg					3	2			1			1	1												2				1	2	13
Hessen					5	2		1			2	1													3				1	2	17
Italy						3		3	1			2		1															3		13
Kaiserslautern			2		3	2	1					2								1		1			2				2	2	18
Turkey/Spain						3			1					1	2														3		10
United Kingdom				1		2		1	1		1	1								1					1				3	1	13
Wuerzburg				1	3	5						3												1	1				4	1	19
Japan			1		1	9			1																1				4	1	18
Korea						2			2			1																	2		7
Okinawa			1			5						1									1						2			2	12
Cuba									1																						1
Antilles		1			1				1									1							1	1				1	7
Camp Lejeune			1		5																				1					1	8
Dahlgren								1																							1
Ft Benning			1		5																				1						7
Ft Bragg				7																			1					1			9
Ft Campbell					5																				2					1	8
Ft Jackson	1					1										1															3
Ft Knox			4																		2						1			1	8
Ft Rucker	1																1														2
Ft Stewart						2																									2
Guam					1			1																	1					1	4
Laurel Bay		1																	1												2
Maxwell AFB						1																									1
Quantico			1							1										1						1					4
Robins						1						1																			2
West Point				1																				1							2
TOTAL	2	2	11	12	32	42	1	7	10	1	3	16	1	2	2	1	1	1	1	3	3	1	1	4	16	2	3	1	25	17	224

Source: Summary Enrollment Report - DoDEA, 30 Sep 99 P = Pre-Kindergarten K = Kindergarten

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Table F-2. Enrollment for DoDEA Schools with Students in Grades 9-12

	SS	KP	KN	1	2	3	4	5	6	7	8	9	10	11	12	Total	Total 9-12
Ramstein HS												282	225	193	185	885	885
Kadena HS												277	215	186	146	824	824
Kubasaki HS												275	211	183	120	789	789
Heidelberg HS												236	165	168	148	717	717
Lakenheath HS												234	177	125	115	651	651
Seoul HS										190	187	180	159	167	122	1005	628
Antilles HS												163	165	141	129	598	598
Fort Campbell HS												174	148	140	120	582	582
Wuerzburg HS												186	152	140	95	573	573
Wiesbaden HS												174	146	125	118	563	563
Kinnick HS												185	145	130	98	558	558
Kaiserslautern HS												176	147	111	112	546	546
Knox HS												180	147	98	94	519	519
Lejeune HS												164	126	105	87	482	482
Bahrain ES/HS	20	1	42	40	49	48	45	53	56	63	66	75	107	123	125	913	430
Yokota HS										128	140	127	132	68	98	693	425
Guam HS												142	126	95	61	424	424
Zama HS										120	123	120	96	88	82	629	386
Patch HS										128	103	102	91	87	65	576	345
Naples HS										104	112	111	78	79	60	544	328
Edgren HS										127	140	99	103	73	53	595	328
SHAPE HS										109	96	84	79	83	69	520	315
Mannheim HS												96	91	56	59	302	302
Bitburg HS												108	78	63	49	298	298
Vilseck HS										111	97	92	75	67	56	498	290
Hanau HS												96	66	66	45	273	273
Aviano HS										117	96	72	76	59	56	476	263
AFCENT HS										110	82	79	69	54	56	450	258
Roosevelt Roads MS/HS									95	105	98	91	60	51	41	541	243
London Central HS										40	33	58	71	47	51	300	227
Baumholder HS										100	60	81	56	29	43	369	209
Rota HS										67	68	57	48	43	37	320	185
Osan HS										52	48	53	52	39	38	282	182
Vicenza HS										48	50	53	50	40	37	278	180
Sigonella ES/HS	40	13	92	91	114	83	82	93	77	65	54	62	49	33	35	983	179
Quantico MS/HS									93	69	70	51	47	39	33	402	170
Ansbach HS										75	76	60	40	35	27	313	162
Taegu ES/HS	20	0	42	46	46	46	53	49	52	32	45	65	29	36	29	590	159
Bamberg HS										65	49	51	34	32	30	261	147
Perry HS										52	65	41	33	34	35	260	143
King ES/HS	20	2	40	47	37	27	38	45	38	66	82	38	48	29	28	585	143
Giessen HS										55	45	43	41	31	23	238	138
Bad Kreuznach HS										46	47	40	52	22	22	229	136
Hohenfels HS										32	41	37	36	29	26	201	128
Iceland HS										42	40	52	37	21	13	205	123
Alconbury HS										48	32	36	37	20	28	201	121
Incirlik HS										53	44	47	34	22	17	217	120
Brussels ES/HS		2	17	13	19	22	26	18	30	28	29	28	30	26	29	317	113
Ramey ES/HS	1	24	36	40	37	40	35	32	30	36	38	37	31	25	15	457	108
Lajes HS										42	33	33	26	19	19	172	97
Menwith Hill ES/HS		4	14	23	32	36	23	23	30	37	16	19	25	22	14	318	80
W.T. Sampson	20		57	40	29	40	33	28	27	31	23	28	19	11	7	393	65
Pusan ES/HS		10	11	12	9	13	21	20	20	15	20	13	17	17	17	215	64
Ankara ES/HS			10	21	21	17	16	18	14	16	17	18	13	9	23	213	63
Izmir ES/HS			40	30	33	29	27	32	28	31	23	17	15	15	8	328	55
Bad Aibling ES/HS		6	27	37	24	30	22	21	18	17	13	12	8	12	9	256	41
Livorno ES/HS	20	2	19	16	17	7	17	14	8	10	12	9	3	8	1	163	21

57 Schools Mean = 305 HS Students Median = 243 HS Students

Source: DoDEA Enrollment Report as of 30 Sep 99

Table F-3. DoDDS Enrollment 30 Sep 98 compared to Projected Enrollment

School	SS	KP	KN	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	PROJ	DIFF	%
Brussels	36	90	426	469	413	441	379	370	412	380	329	306	253	241	203	**4748**	**4629**	**119**	**2.5%**
Heidelberg	34	48	611	653	583	621	553	540	474	499	417	431	346	299	305	**6414**	**6594**	**-180**	**-2.8%**
Hessen	11	87	624	681	600	568	510	452	412	383	339	316	263	219	170	**5635**	**6257**	**-622**	**-11.0%**
Italy	103	64	489	618	537	516	530	472	447	381	387	291	247	205	182	**5469**	**5447**	**22**	**0.4%**
Kaiserslautern	70	120	943	1020	893	903	882	796	717	618	587	566	458	392	327	**9292**	**9483**	**-191**	**-2.1%**
Turkey/Spain	68	30	307	376	337	331	317	301	281	279	242	213	274	244	203	**3803**	**3956**	**-153**	**-4.0%**
United Kingdom	83	47	308	449	499	509	503	450	494	396	411	376	301	258	204	**5288**	**5354**	**-66**	**-1.2%**
Wuerzburg	100	116	942	1017	913	825	743	667	569	562	476	408	378	266	220	**8202**	**8644**	**-442**	**-5.4%**
DoDDS-Europe	**505**	**602**	**4650**	**5283**	**4775**	**4714**	**4417**	**4048**	**3806**	**3498**	**3188**	**2907**	**2520**	**2124**	**1814**	**48851**	**50364**	**-1513**	**-3.1%**
Japan	69	209	1180	1187	1102	1107	1070	922	900	793	697	639	531	458	343	**11207**	**11357**	**-150**	**-1.3%**
Korea	43	17	295	345	327	343	350	341	295	303	286	271	261	243	188	**3908**	**3963**	**-55**	**-1.4%**
Okinawa	87	89	926	969	941	947	879	844	734	623	625	559	425	333	234	**9215**	**9300**	**-85**	**-0.9%**
DoDDS-Pacific	**199**	**315**	**2401**	**2501**	**2370**	**2397**	**2299**	**2107**	**1929**	**1719**	**1608**	**1469**	**1217**	**1034**	**765**	**24330**	**24620**	**-290**	**-1.2%**
Panama/Cuba	0	24	301	273	311	330	263	263	240	244	218	188	171	157	177	**3160**	**3671**	**-511**	**-16.2%**
DODDS	**704**	**941**	**7352**	**8057**	**7456**	**7441**	**6979**	**6418**	**5975**	**5461**	**5014**	**4564**	**3908**	**3315**	**2756**	**76341**	**78655**	**-2314**	**-3.0%**
Projection	**1080**	**188**	**8185**	**8007**	**7986**	**7722**	**7113**	**6680**	**6086**	**5637**	**5121**	**4617**	**4114**	**3322**	**2797**	**78655**		********	**Adjust**
Difference	**-376**	**753**	**-833**	**50**	**-530**	**-281**	**-134**	**-262**	**-111**	**-176**	**-107**	**-53**	**-206**	**-7**	**-41**	**-2314**		**-1803**	**-2.4%**
%	**-53.4%**	**80.0%**	**-11.3%**	**0.6%**	**-7.1%**	**-3.8%**	**-1.9%**	**-4.1%**	**-1.9%**	**-3.2%**	**-2.1%**	**-1.2%**	**-5.3%**	**-0.2%**	**-1.5%**	**-3.0%**			

**** Adjusted Percentage excluding Panama/Cuba. Large discepancy there can probably be attributed to closing Panama schools during SY 98-99

DoDDS Enrollment 30 Sep 99 compared to Projected Enrollment

District/Area	SS	KP	KN	1	2	3	4	5	6	7	8	9	10	11	12	Total	PROJ	DIFF	%
Brussels	40	85	413	431	438	424	387	355	336	401	344	299	256	226	203	**4638**	**4611**	**27**	**0.6%**
Heidelberg	60	60	568	647	615	598	612	539	548	468	440	446	355	323	281	**6560**	**6459**	**101**	**1.5%**
Hessen	120	114	656	612	637	567	507	466	423	378	334	313	253	222	186	**5788**	**5806**	**-18**	**-0.3%**
Italy	140	70	546	533	599	519	499	495	447	402	357	307	256	219	189	**5578**	**5604**	**-26**	**-0.5%**
Kaiserslautern	160	116	903	957	949	869	839	783	746	655	569	579	480	355	362	**9322**	**9432**	**-110**	**-1.2%**
Turkey/Spain	100	25	334	339	354	323	316	303	288	274	253	247	243	231	229	**3859**	**3867**	**-8**	**-0.2%**
United Kingdom	100	53	368	412	510	499	520	489	473	475	392	399	347	235	221	**5493**	**5371**	**-122**	**-2.2%**
Wuerzburg	200	109	953	896	887	746	725	656	564	512	473	426	337	303	234	**8021**	**8222**	**-201**	**-2.5%**
DoDDS-Europe	**920**	**632**	**4741**	**4827**	**4989**	**4545**	**4405**	**4086**	**3825**	**3565**	**3162**	**3016**	**2527**	**2114**	**1905**	**49259**	**49372**	**-113**	**-0.2%**
Japan	180	196	1105	1151	1096	1042	1049	972	877	683	803	610	557	422	394	**11137**	**11358**	**-221**	**-2.0%**
Korea	60	25	281	316	366	321	350	367	350	289	300	311	257	259	206	**4058**	**3925**	**133**	**3.3%**
Okinawa	140	102	991	958	966	914	889	815	777	576	696	552	426	369	266	**9437**	**9271**	**166**	**1.8%**
DoDDS-Pacific	**380**	**323**	**2377**	**2425**	**2428**	**2277**	**2288**	**2154**	**2004**	**1548**	**1799**	**1473**	**1240**	**1050**	**866**	**24632**	**24554**	**78**	**0.3%**
Cuba	20	0	57	40	29	40	33	28	27	31	23	28	19	11	7	**393**	**402**		**0.0%**
DoDDS-Americas	**20**	**0**	**57**	**40**	**29**	**40**	**33**	**28**	**27**	**31**	**23**	**28**	**19**	**11**	**7**	**393**	**402**	**-9**	**-2.3%**
DoDDS	**1320**	**955**	**7175**	**7292**	**7446**	**6862**	**6726**	**6268**	**5856**	**5144**	**4984**	**4517**	**3786**	**3175**	**2778**	**74284**	**74328**	**-44**	**-0.1%**

Source: DoDEA Management Analysis Section

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Table F-4. Class Size Analysis for DoDDS Elementary Schools*

	Number of classes by grade and student												
# Students	SS	KP	KN	K	1	2	3	4	5	6	1-3	4-6	Total
1													
2	1			1			3	4	5	4	6	13	33
3		5				2		1		1	7	2	14
4	1	8		2	1	1	2		1	2	4	3	18
5		6		1	3	2	4		1	3	9	4	20
6	1	8			3	2	1		2		6	2	17
7	1	10		2	4	3	1	3	1	1	8	5	26
8		4			1	2	1	1	3	2	4	6	14
9	2	8	1		4	3	1		3	3	8	6	25
10	1	5		3	1	4	1	5	1	2	6	8	23
11		2		1	3		2	3	1	3	5	7	15
12		4		3	2	1	3	2	2	2	6	6	19
13		1			2	5	3		4	2	10	6	17
14		1	2	2	3	2	1	1	3	2	6	6	17
15	4		2	3	8	2	3	2	3	15	13	20	42
16	7	4	2		8	6	3	1		4	17	5	35
17	6		2	1	2	3	5	2		4	10	6	25
18	18	4	8	2	14	6	4		5	8	24	13	69
19			10	9	12	9	9			6	30	6	57
20			14	6	24	8	21	7	7	7	53	21	94
21			9	6	32	28	22	10	17	9	82	36	134
22			9	12	34	43	24	27	16	15	101	58	180
23			17	9	51	46	36	39	16	14	133	69	228
24			16	10				26	26	20		72	182
25								24	24	18		66	142
26													88
27													68
28													47
29													8
30													6
31													3
32													6
35													1
38													
51													
70													
75													
83													
86													
88													
93													
Total**	46	101	128	111	267	267	236	224	206	194	770	624	1780
Total***	43	72	123	107	250	248	226	210	195	179	724	584	1653
<= max	42	70	92	73	212	178	150	158	141	147	540	446	1263
> max	1	2	31	34	38	70	76	52	54	32	184	138	390
% <= max	98%	97%	75%	68%	85%	72%	66%	75%	72%	82%	75%	76%	76%

SS - Sure Start; KP - Pre-Kindergarten; KN - Half Day Kindergarten; K - Kindergarten

* Does not include data for Kaiserslautern, Heidelberg and Hessen Districts

** Total includes all classrooms in data provided by DoDEA

*** Total includes all classes, except those shaded in dark gray (assumed to be errors after review)

Classes shaded in light gray exceed the staffing standard

Table F-5. Schools Implementing Reduced PTR 1:18 in grades 1-3 in SY 99-00

		Number of classes meeting standard		Size of classes not meeting standard				
District	**School**	**# Yes**	**# No**	**19**	**20**	**21**	**22**	**23**
Brussels	AFCENT ES	11	0					
Brussels	Bitburg ES	4	12	5	3	4		
Brussels	Geilenkirchen ES	5	3	1	1		1	
Brussels	Spangdahlem ES	12	5		1	1		3
Heidelberg	Bad Aibling ES/HS							
Heidelberg	Garmisch ES							
Hessen	Gelnhausen ES							
Hessen	Sportfield ES							
Italy	Livorno ES/HS	3	0					
Kaiserslautern	Dexheim ES							
Kaiserslautern	Sembach ES							
Turkey/Spain	Ankara ES/HS	1	2			2		
Turkey/Spain	Sevilla ES	2	0					
United Kingdom	Croughton ES/MS	3	0					
United Kingdom	West Ruislip ES	4	1		1			
Wuerzburg	Bad Kissingen ES	5	0					
Korea	Joy ES	3	0					
Korea	Pusan ES/HS	4	0					
Cuba	Cuba ES/HS							
DDESS								
Alabama	Maxwell ES	7	3	1	2			
Alabama	Rucker ES	11	3	3				
Alabama	Rucker PS	5	3	3				
Antilles	Antilles ES	21	0					
Antilles	Antilles IS	11	0					
Antilles	Ramey School	2	4	1	1		2	
Benning	McBride ES							
Benning	White ES							
Bragg	Bowley ES	5	9	5	4			
Bragg	Devers ES	6	10	1	2	2	3	2
Bragg	Holbrook ES	8	3	2		1		
Bragg	Murray ES							
Camp Lejeune	Berkley Manor ES	3	6	6				
Camp Lejeune	Russell ES	6	3		2	1		
Camp Lejeune	Stone Street ES	5	3		2	1		
Camp Lejeune	Tarawa Terrace I ES	7	0					
Camp Lejeune	Tarawa Terrace II ES	4	7	5	2			
Fort Jackson	Hood Street	6	8	6	2			
Guam	South ES/MS	18	0					
South Carolina	Laurel Bay IS	8	0					
South Carolina	Laurel Bay PS	20	0					
South Carolina	Pierce Terrace ES	8	0					
Stewart	Brittin ES	15	2	1	1			
Stewart	Diamond ES	17	6	4	2			
Virginia	Ashurst ES	3	6	1	1	2	2	
Virginia	Dahlgren ES							
Virginia	Russell ES	5	4	2		2		
TOTAL		258	103	47	27	16	8	5

Note: Data not available for schools with no entries

Table F-6. Class Size Analysis for DoDDS Middle/High Schools

Class Size	Lang Arts/ Reading/ ESL	Math	Science	Social Studies	Foreign Language	Business/ Computers	Art	Technology Voc Educ JROTC	Music	Phys Ed	Misc Courses	Total
1	118	75	31	42	77	257	41	236	29	13	130	1049
2	62	20	10	11	49	143	13	149	15	13	73	558
3	51	15	4	6	38	79	12	91	23	12	38	369
4	40	19	5	7	23	57	11	72	12	9	28	283
5	30	13	2	4	14	41	11	52	15	6	27	215
6	31	11	7	7	27	30	5	52	18	4	29	221
7	23	13	6	5	26	28	12	33	25	5	32	208
8	30	18	17	4	19	15	12	38	9	8	25	195
9	17	15	7	5	24	18	12	39	13	12	20	182
10	32	22	14	9	21	18	8	23	9	11	26	193
11	22	16	8	8	17	14	11	19	12	9	13	149
12	31	24	16	18	13	17	12	22	8	8	13	182
13	31	16	14	19	20	16	10	23	9	16	17	191
14	30	24	28	18	21	19	10	11	15	16	23	215
15	43	39	35	29	22	18	7	16	14	13	21	257
16	42	40	34	32	25	19	8	17	7	18	24	266
17	48	41	38	52	26	14	12	17	8	16	27	299
18	55	42	56	40	25	20	9	18	7	14	29	315
19	69	45	54	43	20	20	13	10	9	18	18	319
20	78	52	56	69	26	20	16	8	7	14	30	376
21	82	59	67	63	30	21	11	14	7	12	28	394
22	83	54	65	50	32	20	9	10	7	18	30	378
23	73	67	78	66	28	18	11	9	4	17	22	393
24	72	84	67	75	24	11	7	10	6	15	23	394
25	46	54	65	63	34	6	9	4	7	10	20	318
26	61	41	53	61	24	9	8	1	10	21	11	300
27	42	29	29	52	12	1	8	2	7	25	12	219
28	28	27	28	39	13		1	2	2	16	9	165
29	22	16	20	23	12	3		1	4	16	5	122
30	9	10	6	11	8	1			5	14	3	67
31	6	12	1	3	1	1	1	2	4	15	1	47
32	1	4		3		1		1	7	12		29
33	4	3	1						6	7	1	22
34	4	1		1				1	4	6	2	19
35	1			1	1				5	4		12
36+	1						1		43	11		56
Total	1418	1021	922	939	752	955	311	1003	392	454	810	8977

Class Size	Lang Arts/ Reading/ ESL	Math	Science	Social Studies	Foreign Language	Business/ Computers	Art	Technology Voc Educ JROTC	Music	Phys Ed	Misc Courses	Total
1-25	1239	878	784	745	681	939	292	993	295	307	766	7919
%	87.4%	86.0%	85.0%	79.3%	90.6%	98.3%	93.9%	99.0%	75.3%	67.6%	94.6%	88.2%
26-30	162	123	136	186	69	14	17	6	28	92	40	873
%	11.4%	12.0%	14.8%	19.8%	9.2%	1.5%	5.5%	0.6%	7.1%	20.3%	4.9%	9.7%
31-35	16	20	2	8	2	2	1	4	26	44	4	129
%	1.1%	2.0%	0.2%	0.9%	0.3%	0.2%	0.3%	0.4%	6.6%	9.7%	0.5%	1.4%
36+	1	0	0	0	0	0	1	0	43	11	0	56
%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	11.0%	2.4%	0.0%	0.6%
Total	1418	1021	922	939	752	955	311	1003	392	454	810	8977

Table F-7. NAEP Reading Class Size Data

Grade 4 Reading Class Size Data		
State	1999 Enrollment (000)	% of 1998 Classes w/ Less Than 26 Students
Maine	220	98
Texas	3,900	97
Kansas	470	94
New Mexico	329	94
Oklahoma	627	93
Connecticut	545	92
Wyoming	94	90
West Virginia	296	89
DDESS	**36**	**89**
Rhode Island	154	84
Massachusetts	964	82
Virginia	1,100	82
New Hampshire	195	81
South Carolina	644	81
Tennessee	909	79
Wisconsin	888	79
Arkansas	456	78
Washington, DC	80	78
Missouri	921	78
Montana	161	77
Alabama	759	75
DoDDS	**76**	**75**
Mississippi	502	74
Kentucky	646	73
Louisiana	754	69
Georgia	1,400	67
Minnesota	858	66
Nation	**46,100**	**64**
North Carolina	1,200	63
New York	2,900	62
Colorado	699	60
Delaware	113	56
Maryland	837	52
Oregon	543	52
Washington	1,000	51
Arizona	829	49
Florida	2,300	46
Hawaii	187	43
Nevada	311	35
California	5,800	21

Grade 8 Reading Class Size Data		
State	1999 Enrollment (000)	% of 1998 Classes w/ Less Than 26 Students
DDESS	**36**	**95**
Maine	220	92
Wyoming	94	84
Arkansas	456	84
DoDDS	**76**	**82**
Kansas	470	80
Connecticut	545	80
New Mexico	329	77
West Virginia	296	76
Massachusetts	964	76
Texas	3,900	75
Oklahoma	627	72
Rhode Island	154	72
Missouri	921	72
Mississippi	502	71
Montana	161	69
South Carolina	644	67
Virginia	1,100	66
Alabama	759	66
Wisconsin	888	65
Louisiana	754	63
Washington DC	80	60
North Carolina	1,200	60
New York	2,900	58
Nation	**46,100**	**57**
Georgia	1,400	56
Tennessee	909	54
Hawaii	187	54
Kentucky	646	49
Colorado	699	46
Delaware	113	46
Minnesota	858	45
Oregon	543	44
Arizona	829	44
Maryland	837	36
Washington	1,000	35
Florida	2,300	33
Nevada	311	33
California	5,800	19

Source: NCES Web Site

Grade 4 data - http://nces.ed.gov/nationsreportcard/TABLES/REA1998/XS/Gr04/TCH/XSR13061.HTM

Grade 8 data – http://nces.ed.gov/nationsreportcard/TABLES/REA1998/XS/Gr08/TCH/XSR23144.HTM

Appendix G
DoDEA MANAGEMENT AND RELATIONSHIPS

Appendix G
DoDEA MANAGEMENT AND RELATIONSHIPS

FUNDING AND LEGISLATION

Table G-1 provides federal education funding amounts and percentages for each state.

Table G-2 provides per pupil expenditures for each state in SY 97-98 and SY 98-99.

Table G-3 is a list of FY 2000 Department of Education initiatives and funding opportunities.

Table G-1. SY 97-98 Total Revenues and Amount/ Percentage Provided by the Federal Government

State	$ Total (000)	$ Federal (000)	% Federal
United States	325,976,011	22,201,965	6.8
Alabama	4,146,629	389,242	9.4
Alaska	1,218,425	149,630	12.3
Arizona	4,731,675	482,748	10.2
Arkansas	2,600,655	280,682	10.8
California	38,142,613	3,120,793	8.2
Colorado	4,327,326	219,798	5.1
Connecticut	5,160,728	201,858	3.9
Delaware	913,616	69,240	7.6
Dist. Of Columbia	706,935	116,363	16.5
Florida	14,988,118	1,145,240	7.6
Georgia	9,041,434	616,455	6.8
Hawaii	1,282,702	110,725	8.6
Idaho	1,320,647	92,937	7.0
Illinois	14,194,654	957,788	6.7
Indiana	7,513,407	363,393	4.8
Iowa	3,346,481	177,460	5.3
Kansas	3,122,238	184,940	5.9
Kentucky	3,932,068	376,532	9.6
Louisiana	4,494,429	506,525	11.3
Maine	1,600,635	111,892	7.0
Maryland	6,454,696	337,791	5.2
Massachusetts	7,893,657	395,259	5.0
Michigan	14,329,715	950,569	6.6
Minnesota	6,529,420	320,513	4.9
Mississippi	2,407,954	339,316	14.1
Missouri	6,005,256	375,185	6.2
Montana	1,029,939	105,211	10.2
Nebraska	1,964,205	130,716	6.7
Nevada	1,910,794	87,580	4.6
New Hampshire	1,364,943	51,940	3.8
New Jersey	13,189,983	477,088	3.6
New Mexico	1,952,452	258,676	13.2
New York	27,782,468	1,512,286	5.4
North Carolina	7,188,615	520,907	7.2
North Dakota	682,419	84,339	12.4
Ohio	13,458,095	783,397	5.8
Oklahoma	3,416,296	295,299	8.6
Oregon	3,883,939	248,549	6.4
Pennsylvania	14,837,945	868,600	5.9
Rhode Island	1,264,156	68,680	5.4
South Carolina	4,055,072	343,673	8.5
South Dakota	794,256	79,522	10.0
Tennessee	4,815,833	425,768	8.8
Texas	24,179,060	1,845,074	7.6
Utah	2,305,397	159,879	6.9
Vermont	861,643	44,752	5.2
Virginia	7,757,954	405,791	5.2
Washington	6,895,693	442,455	6.4
West Virginia	2,216,984	204,827	9.2
Wisconsin	7,059,759	316,879	4.5
Wyoming	702,001	47,203	6.7
Guam	173,339	18,100	10.4
Puerto Rico	2,094,025	572,495	27.3

Source: U.S. Dept. of Education, NCES, Common Core of Data, "National Public Education Financial Survey: School Year 1997-98".

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Table G-2. Comparison of Per Pupil Expenditures

SY 97-98 Expenditures per pupil	
State	Per Pupil Costs
New Jersey	$9,643
Connecticut	$8,904
New York	$8,852
DoDDS	**$8,597**
Dist. of Columbia	$8,393
Alaska	$8,271
Rhode Island	$7,928
Massachusetts	$7,778
Delaware	$7,420
DDESS	**$7,297**
Pennsylvania	$7,209
Wisconsin	$7,123
Vermont	$7,075
Michigan	$7,050
Maryland	$7,034
Maine	$6,742
Oregon	$6,419
Minnesota	$6,388
West Virginia	$6,323
Indiana	$6,318
Illinois	$6,242
Wyoming	$6,218
Ohio	$6,198
United States	**$6,189**
New Hampshire	$6,156
Virginia	$6,067
Washington	$6,040
Iowa	$5,998
Nebraska	$5,958
Hawaii	$5,858
Kansas	$5,727
Montana	$5,724
Colorado	$5,656
Georgia	$5,647
California	$5,644
Missouri	$5,565
Florida	$5,552
Texas	$5,444
South Carolina	$5,320
Nevada	$5,295
North Carolina	$5,257
Kentucky	$5,213
Louisiana	$5,188
North Dakota	$5,056
Oklahoma	$5,033
New Mexico	$5,005
Tennessee	$4,937
Alabama	$4,849
Idaho	$4,721
Arkansas	$4,708
South Dakota	$4,669
Arizona	$4,595
Mississippi	$4,288
Utah	$3,969

SOURCE: U.S. Dept. of Education, NCES, Common Core of Data, "National Public Education Financial Survey School Year 1997-98".

SY 98-99 Expenditures per pupil	
State	Per Pupil Costs
New Jersey	$10,077
Alaska	$9,500
Connecticut	$9,358
DoDDS	**$9,055**
New York	$9,034
DDESS	**$8,586**
Colorado	$8,500
Dist. of Columbia	$8,200
Massachusetts	$8,091
Rhode Island	$7,792
Pennsylvania	$7,778
Wisconsin	$7,770
Delaware	$7,442
New Hampshire	$7,179
Illinois	$7,150
Wyoming	$7,128
Michigan	$7,118
West Virginia	$7,095
Maryland	$6,930
Minnesota	$6,876
Maine	$6,818
Vermont	$6,705
Indiana	$6,572
Oregon	$6,446
United States	**$6,435**
Ohio	$6,333
Washington	$6,300
Nebraska	$6,186
Virginia	$6,182
Iowa	$6,163
Kentucky	$5,882
California	$5,879
Montana	$5,870
New Mexico	$5,775
North Carolina	$5,750
Kansas	$5,745
Louisiana	$5,703
Florida	$5,652
South Carolina	$5,590
Georgia	$5,571
Missouri	$5,537
North Dakota	$5,500
Texas	$5,487
Nevada	$5,466
Hawaii	$5,348
Oklahoma	$5,104
South Dakota	$4,923
Alabama	$4,743
Tennessee	$4,730
Arkansas	$4,605
Arizona	$4,584
Mississippi	$4,582
Idaho	$4,490
Utah	$4,027

Source: Education Week Quality Counts 2000, January 13, 2000. Calculated based on state enrollment and expenditure figures.

DoDEA data from SY 97-98 and SY 98-99 Accountability Reports

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Table G-3. Dept. of Education FY 2000 Major Initiatives and Funding Opportunities

Initiative	Summary	Focus
Class Size Reduction $1.2 billion in FY1999 $1.3 billion in FY2000	Helps school districts hire 100,000 teachers over 7 years to reduce class sizes in grades 1-3 to a nationwide average of 18.	High poverty communities in each state
21st Century Community Learning Centers $200 million in FY1999 $453.7 million in FY2000	Funds school-community partnerships to keep schools open after-school and summers as safe havens for enhanced learning.	Rural and inner-city public schools
Reading Excellence $260 million in FY1999 $260 million in FY2000	Helps children learn to read well and independently by the end of the third grade through reading instruction based on scientifically based reading research, professional development, family literacy, and extended learning activities.	Districts with the highest percentage of poverty in the states and districts with the highest number of poor children
Technology Literacy Challenge Fund $425 million in FY1999 $425 million in FY2000	Provides funds to states, which award 95 percent as sub-grants to districts to help carry out state and local education technology plans. Districts with the highest poverty and greatest need for technology receive priority.	Cities with the highest rates of poverty and greatest need for technology
Safe and Drug Free Schools—Middle School Coordinators Program $35 million in FY1999 $50 million in FY2000	Enables Middle Schools to hire alcohol, drug and violence prevention coordinators.	LEAs with significant drug, discipline or school safety problems in their middle schools
Comprehensive School Reform Demonstration Program $145 million in FY1999 $220 million in FY2000	Helps raise student achievement by assisting public schools across the country to implement effective, comprehensive school reforms that are based on reliable research and effective practices, and include an emphasis on basic academics and parental involvement.	High poverty and low achieving schools
Public Charter Schools Program $100 million in FY1999 $145 million in FY2000	Helps charter schools meet start-up costs associated with creating their new public schools, such as developing curriculum, purchasing equipment, or providing professional development for teachers.	Charter school start-up costs

Initiative	Summary	Focus
Advanced Placement Incentive Program $4 million in FY1999 $15 million in FY2000	Enables States to reimburse part or all of the cost of test fees for eligible low-income individuals.	Low income individuals
College Assistance Migrant Program (CAMP) and High School Equivalency Program (HEP) $13 million in FY1999 $22 million in FY2000	CAMP assists migrant and seasonal farmworkers to complete the first academic year of college and succeed in post-secondary education. HEP assists migrant and seasonal farmworkers and their children to obtain a secondary school diploma or a GED certificate and to continue their post-secondary education or to enter career positions	Migrant and seasonal farm workers
Teacher Quality Enhancement Grants $75 million in FY1999 $98 million in FY2000	Funds State, Partnership, and Teacher Recruitment projects that support systemic change in state teacher licensure policies and practices; projects to promote comprehensive and lasting change to teacher preparation programs; and the recruitment and preparation of excellent teachers for America's classrooms.	Teacher preparation programs and programs to recruit teachers in high poverty urban and rural areas.
Preparing Tomorrow's Teachers to Use Technology Program (PT3) $75 million in FY1999 $75 million in FY2000	A national teacher preparation reform initiative to ensure that all future teachers are technology-proficient educators who are well prepared to teach 21st Century students.	Teacher preparation programs.
Bilingual Professional Development Program $50 million in FY1999 $75 million in FY2000	Three competitive grant programs to meet the need for fully certified bilingual and ESL teachers and other educational personnel, and to insure well-prepared personnel to provide services to limited English proficient students.	Current and potential bilingual and ESL teachers. (87 grants of $150K - $250K awarded in FY 2000)
GEAR UP for College Program $120 million in FY1999 $200 million in FY2000	A long-range early college preparation and awareness program that gives low-income students and their families pathways to college by partnering middle and high schools with colleges and community organizations or through State-administered programs.	Schools with low income students in communities that can partner with a local college or other organizations.

Initiative	Summary	Focus
Learning Anytime Anywhere Partnerships $10 million in FY1999 $15 million in FY2000	Supports post-secondary partnerships among colleges, businesses, and other organizations to promote technology-mediated distance education that is not limited by time or place.	Post-secondary programs.
New American High Schools $4.05 million in FY1999 $4 million in FY2000	Showcases and supports outstanding high schools that have committed to extensive reform efforts, raised academic standards for all students, and achieved excellent results.	Outstanding high schools. (Compete for $3,500 grants.)
Smaller Learning Communities Initiative $45 million in FY2000	Helps LEAs plan, develop and implement smaller learning communities (goal of not more than 600 students in a learning community) for students in large high schools (defined as 1,000 students or more) to create a more personalized high school experience for students and improve student achievement.	Districts with high schools enrolling 1,000 or more students.
Elementary School Counseling Demonstration Program $20 million in FY2000	Provides grants to establish or expand counseling programs in elementary schools.	Schools that demonstrate the greatest need for counseling services.
Safe and Drug Free Schools—Alternative Education Programs for Suspended and Expelled Youth $10 million in FY2000	Helps school districts identify effective procedures, policies, and programs that serve to discipline students without suspending or expelling them.	Public and private non-profit organizations and individuals.
American Indian Teacher Corps Professional Development Grants $10 million in FY2000	The American Indian Teacher Corps initiative combines several program elements in a manner that will effectively train 1,000 new teachers to work in schools with high concentrations of Indian students.	Schools with high concentrations of Indian students.

Source: Department of Education FY 2000 Major Education Initiatives and Funding Opportunities. www.ed.gov/inits/FY2000/index.html

Appendix H
RECOMMENDATIONS

Appendix H
RECOMMENDATIONS

This appendix summarizes the recommendations presented in each major evaluation area of the main report. The roman numerals here correspond to the pertinent chapter numbers of the main report.

III. STUDENT ACHIEVEMENT

A. Test Scores

DoDEA should assess the different SAT preparation programs available and those offered in the DoDEA high schools, and develop a program that will be the most effective and beneficial for preparing students for the SAT.

B. College Attendance

None

IV. CURRICULUM

A. Curriculum Content Standards

DoDEA, along with an outside team of standards and content area experts, should review and revise its content standards, to ensure that the standards are rigorous and comparable to the best state and international standards.

DoDEA should conduct an alignment analysis between the content standards and current standardized tests to ensure that what is in the standards is in fact what students are being held accountable for knowing.

B. Advanced Placement Courses

DoDEA should conduct a review to determine why overall average scores on AP tests are below the national average and how to improve them.

DoDEA should review and develop written guidelines for AP course eligibility criteria and enrollment procedures, and review and discuss with stakeholders the optional AP test-taking policy to determine if it should remain in effect or be changed.

C. Vocational Education

DoDEA should develop, fund, staff, and implement a revised vocational education program as soon as possible.

D. Special Education

OSD and the Services should revise the applicable regulations and EFMP to include government civilians.

To assist the Services in evaluating the effectiveness of their EFMP, DoDEA should report to the Services all occurrences of sponsors arriving at locations without the required special education resources, and request reimbursement for costs associated with providing special education resources in locations where they are not already available.

DoDEA should place the annual DoDDS Directory of Early Intervention, Special Education and Related Services on the DoDEA website.

E. Distance Learning

DoDEA should explore ways that DL capabilities can be used to enrich and expand curriculum offerings throughout DoDEA with a particular emphasis on small schools.

DoDEA should staff a design and development team and increase administrative support at the DL Center to upgrade current courses, develop a full component of core curriculum courses, and review other online courses for applicability.

DoDEA should develop a formal DL certification program and encourage teachers qualified in the courses that require DL teachers to enroll.

DoDEA should use the DL network to offer some of the professional development courses and training currently offered by traditional means.

F. Extracurricular Activities

DoDEA should establish a formal written program and policies for extracurricular activities.

DoDEA should review the policy on eligibility related to student grades and participation on athletic teams with input from stakeholder representatives.

G. Transition

DoDEA should develop a standardized form about transitioning to or from another school system and request that parents complete and return it in order to identify transition issues and alleviate as many as possible.

DoDEA should work with the MCEC and coordinate with the Council of Chief State School Officers to identify and standardize processes and procedures that could alleviate transition issues.

V. TEACHERS & ADMINISTRATORS

A. Teacher Quality

DoDEA should target top-level colleges and universities as part of its teacher recruitment effort.

B. Teacher Professional Development

DoDEA should form a task force to assess the effectiveness of current PD activities, review research literature on professional development, and formulate a comprehensive PD plan that includes individual and system-wide components.

OSD should provide funding to support increased educator professional development that will enhance the quality of education.

DoDEA should develop and implement an effective train-the-trainer program for teachers and a formal mentoring program for teachers new to DoDEA.

C. Teacher Performance Evaluation

DoDEA should consider applying the new performance appraisal system, if approved, to all teachers in both DoDDS and DDESS.

DoDEA should provide extensive training for new principals on how to effectively evaluate and counsel teachers on their performance.

D. Teacher Recruitment and Retention

DoDEA should closely monitor retirement and other separations for trends that may indicate a need to conduct more aggressive recruiting or to develop incentives to keep teachers in the workforce longer.

DoDEA should track the impact of the recent policy changes related to hiring local family members as teachers, and accepting certification from any state, to determine the impact on the workforce in terms of recruiting, retention, and quality of teachers.

DoDEA should review existing policies related to teacher mentors and student teachers to determine what changes would improve the program, and work with the Services and OSD to make necessary changes.

DoDEA should change its policy and require new teachers to report 7 days early to complete inprocessing and provide them pay and allowances to cover that 7-day period.

E. Principals, Superintendents, Counselors, and Instructional Systems Specialists

DoDEA should review the ECP and retirement trends of principals and superintendents to insure that DoDEA can recruit and retain quality administrators.

DoDEA should insure compliance with the procedures outlined in the principal rotation and principal/superintendent performance appraisal policies.

DoDEA should conduct a study to determine how to reduce the administrative requirements on principals.

DoDEA should develop an effective prototype for a college information program to be used annually by counselors in every high school.

DoDEA should conduct a feasibility study on relocating all instructional system specialists/curriculum coordinators to area offices and having an adequate number with experience and training in every subject area to provide quality support to the schools and liaison to the DoDEA Education Division.

F. Teacher Unions

DoDEA and the union leadership at each level should educate military leaders, schools officers, and parents on the roles and activities of the union and should work together to resolve issues in a way that the quality of education is enhanced.

VI. SCHOOL ENVIRONMENT

A. Opportunity

DoDEA should continue to explore ways to provide expanded opportunities for students in small schools.

B. School Improvement Plans and Framework Schools

DoDEA should permit schools to develop their own SIP based on a local needs assessment within the framework of the DoDEA CSP.

DoDEA should establish a formal coordinated program for identifying and helping low-performing schools.

C. Staffing Standards, Pupil-Teacher Ratio and Class Size

DoDEA should expedite the development of their program-based staffing model and determine the increased funding required for implementation.

OSD should provide additional funds to support program-based staffing once requirements are identified.

D. Technology

DoDEA should evaluate how effectively teachers utilize computers to support instruction and assess how well technology contributes to student achievement.

OSD should provide additional funding to complete LAN installations and begin increasing bandwidth to support greater use of the Internet and more distance learning.

DoDEA should review its plan to provide instructional media computers for students at a ratio of 2:1 and determine if the increased cost can be justified.

E. Facilities and Maintenance

OSD should fund DoDEA at 2.5% of PRV (the current DoD standard) for repair and maintenance of facilities.

DoDEA should have a formal approval process involving OSD and stakeholders before diverting funds from the repair and maintenance of facilities account.

VII. DODEA MANAGEMENT & RELATIONSHIPS

A. DoDEA Headquarters Operations

DoDEA should reestablish the importance of curriculum and instruction and hire an Associate Director, Education as soon as possible.

B. Military-DoDEA Relationship

DoDEA administrators should consult with the military community about major changes in school policy, curriculum, etc.

Military commanders should involve DoDEA at the beginning of any planning related to drawdowns and relocations.

All installation commanders should have an Adopt-a-School type program appropriate for the units assigned at the installation and school principals and teachers should take full advantage of the program.

School principals/superintendents and installation commanders should develop a student mentoring program in every school.

Military commanders should provide annual orientations to school personnel about unit and installation missions, training, deployments, etc. and establish ways to make teachers feel that they are an integral part of the military community.

C. Parental Involvement

DoDEA should continue to identify and promote among school principals and military families innovative programs that increase parental involvement, especially with their children at home, and provide information and training on the importance of education and how to assist their children learn.

D. Councils, Committees, School Boards and Schools Officers

DoDEA should submit changes to legislation and DoD Directives and Instructions to simplify and streamline the procedures and relationships that govern the functioning of the educational advisory councils and committees and involve DDESS in the DEC and ACDE process.

E. Funding and Legislation

DoDEA should, with input from DoDDS, DDESS, and councils, develop its budget based on the DoDEA goals and CSP, and develop procedures necessary to translate it to the appropriate categories for budget submission.

DoDEA should review, update, and consolidate all documents that affect DoDDS and DDESS into single documents related to functional areas.

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Appenidix I
GLOSSARY

Appendix I
GLOSSARY

AAC	Area Advisory Council
ACDE	Advisory Council on Dependents' Education
ACT	American College Test
AP	Advanced Placement
AP	Assistant Principal
ASD (FMP)	Assistant Secretary of Defense (Force Management Policy)
AT	Administrative Technologist
CCAC	Component Command Advisory Council
CCSSO	Council of Chief State School Officers
CPO	Civilian Personnel Office
CSP	Community Strategic Plan
CSR	Customer Service Representative
CTBS	Comprehensive Test of Basic Skills
DAC	District Advisory Council
DASD(MC&FP)	Deputy Asst. Secretary of Defense (Military Community & Family Policy)
DDESS	Domestic Dependent Elementary and Secondary Schools
DEC	Dependents Education Council
DES	DoDEA Electronic School
DFAS	Defense Finance and Accounting Service
DL	Distance Learning
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDDS	Department of Defense Dependent Schools
DoDEA	Department of Defense Education Activity
DoDI	Department of Defense Instruction
DoEd	Department of Education

ECP	Educator Career Program
EFMP	Exceptional Family Member Program
ES	Elementary School
FEA	Federal Education Association
FEA-SR	Federal Education Association – Stateside Region
FR	Faculty Representative
FRS	Faculty Representative Spokesperson
FTE	Full Time Equivalents
GAO	Government Accounting Office
HS	High School
IAC	Installation Advisory Committee
IAP	Interscholastic Athletic Program
IDA	Institute for Defense Analyses
IDEA	Individuals with Disabilities Education Act
IEP	Individualized Education Program
JHS	Junior High School
LAN	Local Area Network
LEA	Local Education Activity
LUR	Labor Union Representative
MABE	Metropolitan Area Boards of Education
MCEC	Military Child Education Coalition
MDR	Market Data Retrieval
MILPO	Military Personnel Office
MS	Middle School
NAEP	National Assessment of Educational Progress
NCA	North Central Association, Commission on Schools
NCEE	National Center on Education and the Economy
NCEE	National Commission on Excellence in Education
NCES	National Center for Education Statistics
NRC	National Research Council
NTE	National Teacher's Examination
OFT	Overseas Federation of Teachers
OSD	Office of the Secretary of Defense

PD	Professional Development
PDEE	Professional Development and Education Equity
PD	Professional Development
PSR	Personnel Service Representative
PRV	Plant Replacement Value
PTO	Parent-Teacher Organization
PTR	Pupil Teacher Ratio
PTSA	Parent-Teacher-Student Association
SAC	School Advisory Committee
SACS	Southern Association of Colleges and Schools
SAT	Scholastic Aptitude Test
SBCC	School Based Collaboration Council
SETS	Secondary Education Transition Study (Army)
SHP	School-Home Partnership
SILT	School Improvement Leadership Team
SIP	School Improvement Plan/Process
SIT	School Improvement Team
SO	Schools Officer/Schools Liaison Officer
SUNY	State University of New York
SY	School Year
TAG	Talented and Gifted
TEC	Theater Education Council
TOY	Teacher of the Year
USAFE	U.S. Air Force Europe
USAREUR	U.S. Army Europe
USC	United States Code
USD (P&R)	Under Secretary of Defense (Personnel and Readiness)
VPDA	Virtual Professional Development Academy
YOS	Years of Service

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Appendix J
REFERENCES

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REFERENCES

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REPORT DOCUMENTATION PAGE	Form Approved OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22203-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE October 2000	3. REPORT TYPE AND DATES COVERED Final

4. TITLE AND SUBTITLE Review of Department of Defense Education Activity (DoDEA) Schools Volume I: Main Report and Appendixes	5. FUNDING NUMBERS DASW 01-98-C-0067 BE-6-1786
6. AUTHOR(s) Richard K. Wright *Contributors*: Lowell B. Anderson, Jerome Bracken, Marilyn C. Bracken, Sheila A. Byrd	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Institute for Defense Analyses 1801 N. Beauregard Street Alexandria, VA 22311	8. PERFORMING ORGANIZATION REPORT NUMBER IDA Paper P-3544
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) OUSD (P&R) The Pentagon Washington, DC 20301	10. SPONSORING/MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES	
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited.	12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This report provides an independent review of DoDEA schools focused on the quality of education of the overall system. It reports the findings from extensive interviews with military leaders, parents, administrators, teachers, students, and other individuals in Europe, the Pacific, and CONUS and presents detailed analyses and comparisons of data and additional research on numerous issues identified. The review focused on student achievement, curriculum, teachers and administrators, school environment, and DoDEA management and relationships. The DoDEA school system provides students with an above average to excellent education. Interview comments and detailed analysis did not result in identification of any overall dissatisfaction or serious problems with the DoDEA school system. Analysis and comparisons with other systems indicate that DoDEA performs well and compares favorably in many areas. Improvements can be made that should further enhance the quality of education. Renewed cooperation and collaboration among stakeholder groups indicate a healthy, positive relationship that will help students. There are 53 recommendations that should have an impact on student learning and improve the overall quality of education. All recommendations can be implemented, but some will take an investment of additional resources.

14. SUBJECT TERMS Quality of education, DoD Education Activity, DoDEA, DoDDS, DDESS, student achievement, NAEP, CTBS/Terra Nova, SAT, curriculum, AP courses/tests, content standards, vocational education, distance learning, professional development, SAC, IAC, School Board, staffing standards, PTR	15. NUMBER OF PAGES 376
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL